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EDITORIAL.

THE GRIP OF THE SPECIALIST.

A new interpretation of the relation of the specialist to the general practitioner has recently been printed in the "London Nation" and to say it is painted in lurid tones is to put the matter mildly. Of course, it is always well to see ourselves as others see us, especially when the instigator of a trenchant arraignment happens to be a layman; and surely the maker of the lines in the "Nation" belongs to that large class of inspired outsiders who see obliquely the inner workings of the wheels of medical practice, otherwise he would not impute to us the complete harmony without which his theory of our nefarious actions would not have even one foot to stand upon.

To get at the writer's theory, which is not the easiest thing to do, we may say without indulging in much poetical license that it resolves itself into this,—on account of the affinity and sympathy existing between the general practitioner and the specialist, the former is only too willing to turn his patient over to the latter; not because he feels his inability to cope with the disease but because he has so much consideration for his patient, and so high a regard for the specialist's ability to attend the patient, indefinitely, with monetary results that fairly make us gasp, that to withhold from his beloved patient "the grip of the specialist," would be doing the patient and specialist a hurt which the superb behavior of the latter does not merit. And when the specialist swoops down on the patient, the tragedy of the patient's life is soon in full swing; for nothing can stop this modern Frankenstein from driving his iron fangs into the purse of the sick Fortunatus, and by methods which are but hazily explained, destroy the mental equilibrium of the affrighted victim. The proceeding, as explained by our literary antagonist, is really a "chain" system, which is started by the affable general practitioner and greedily taken up by the specialist, without let or hindrance, until the recovery (a doubtful ending) or the sinister termination in death.

Now all this would stand for truth, if the socio-medical conditions obtaining in the profession warranted such direful conclusions. But,

fortunately for mankind, the harmony pictured in the article is not the perfect quality the writer would have us to believe. While the relations between the general practitioner and the specialist are quite amicable, there is enough of the wee bit of bickering between them to destroy the ineffable affability of the former (as described by the writer) and the reciprocal amiability of the latter. Of course this undercurrent of jealousy does not wholly destroy the feeling of brothhood in the profession; nevertheless it is strong enough to prevent the "chain" system which our critic so greatly deprecates. And thus we see that the despised qualities inherent in our defective make-up often work towards a happy goal for suffering mankind.

The ebullitions of our critic get considerable reenforcement from Maarten Maartens' recent novel "The New Religion;" and here again the general practitioner is suavity personified, and the specialist a vampire in human form. Just why in the "Nation" and "The New Religion", the general practitioner is always portrayed as a man only too willing to yield to the importunities of the avaricious specialist, passes comprehension. The general practitioners we happen to know are comparatively sane, and while they do not grudgingly give up a good "case" to the specialist, their sanity prevents them from self-immolation on the altar Mr. Maarten Maartens and the writer in the "Nation" have erected for this noble and unselfish act. As for the specialists who have seen fit to swim into our ken, they seem to be quite normal, with the usual desire to live by their profession, and not too rampantly afflicted with avarice or cupidity. But the spirit of the times, as reflected by the writers we have quoted, and by many others who have made plangent noises, is decidedly antagonistic to specialism. They seem to see in it the Juggernaut which will untimately crush mankind. To convince them that their fixed idea is indicative of mental confusion brought on by indigested readings, would be quite hopeless, for their answer would be that they are the inspired spokesmen of the instinct of the mass of mankind, as regards the uncanny methods of the specialist. Nevertheless we may say to these genuine but small diluted men what Carlyle said of Coleridge when criticising the poet's "Table Talk": "Coleridge mounts scaffolding, pulleys, and tackle, gathers all the tools in the neighborhood with labour, with noise, demonstration, precept, abuse, and sets—three bricks."

A NURSE'S IDEA OF EUTHANASIA.

A novel with a purpose always gives us pause for the "meat" thereof when properly garnered with literary trimmings is usually of the sort that is considered high; and high meat always whets the appetite so

that the reader reads on despite the dreariness of the book merely to get at the *purpose*. "The Fruit of the Tree," by Edith Wharton, has a *purpose,* and though we cannot say it is a new one, it looms up just as large and scintillant as was its wont in its early youth.

"What shall we do with the suffering, those who cannot possibly recover?" is fairly screamed from the first page to the close of the story. The authoress with a lightness that would be commendable in an opera-bouffe but is decidedly out of place in a serious work, makes short shrift of the question, by boldly stepping before the lime-light and shouting "Kill them". Belonging to that large class of refined literati who doubt the sincerity and prowess of physicians in such direful circumstances, she not only entrusts her message to a nurse but makes her the perpetrator of the foolish deed. Confidence in certain people cannot be explained by any system of philosophy; therefore, if an authoress prefers to make a pliant nurse the agent of an abnormal act, instead of the less yielding physician, she has a perfect right to do so. And surely, Justine Brent, the nurse, from the time she steps into view until the little tragedy is over, does the authoress's bidding very nicely. In fact, she goes to such lengths that we are quite surprised that even a "book" doctor would stand for her many insolences and audacities. But let us examine the book.

The principal characters are John Amherst, the assistant manager of the mills at Westmore, "no one-sided idealist" but one who "felt keenly the growing complexity of the relation between employer and worker, the seeming hopelessness of permanently harmonizing their claims, the recurring necessity of fresh compromises and adjustments"; Mrs. Westmore, a widow, rich, vain and worldly, with but a faint interest in "compromises and adjustments", and who later becomes Amherst's wife; and Justine Brent, a surgical nurse, who illustrates all the faults of the sort of education which was the cause of the recent closing of the Cambridge (Mass.) School of Nursing. Not to disturb this highly dramatic triangle, but merely to make mention of the insignificant fact, there are also two physicians, Drs. Wyant and Garford, who are put in the book to show the cringing, time-serving, money-loving qualities of the ignoble medical profession as contrasted with the sublime self-sacrifice of the nurses' corps evidenced in the transcendentally intellectual Justine Brent. Things jog on as they do in most novels until Mrs. Amherst falls from her horse and sustains an injury to her spine. There is a saying that "All things come to him who waits," and we hasten to inform the reader that the thought-compelling surgical nurse did not wait in vain, for directly she began her duties at Mrs. Amherst's bedside, the obsession to kill her patient quickly engrossed her. Dr. Wyant and Dr. Garford "the great surgeon" seem to our low mentality

to have done all that could be done, but the nurse was decidedly critical of their execrable methods, especially when her patient was restless or gave indications of being in pain. As the authoress says, with the simplicity of language for which she is well-known: "She had often thought with dread of such a contingency. She always sympathized too much with her patients—she knew it was the joint in her armour. Her quick-gushing pity lay too near that professional exterior which she had managed to endure with such a bright glaze of insensibility that some sentimental patients—without much the matter—had been known to call her 'a little hard' ". And one day this great sympathy carries her completely off her feet; and despite "the great surgeon's" favorable prognosis, she "heard an inner voice and its pleading shook her heart. She rose and filled the syringe—and returning with it bent above the bed * * *".

Whatever the logical strength of Mrs. Wharton's advocacy of euthanasia, the crux before us is which one of us—and now we are speaking of the medical profession—is willing to saddle himself with the doing away of a patient. That certain diseases are incurable is patent not only to us but to the public at large; nevertheless, to appoint one or another to execute an act that would mean surcease of agony for the sufferer, would be met, in our present state of education, by a quick rebuff. Moreover, visionary theories should not lodge in any physician's brain; his duties lie in the direction of science, and if today her teachings have not yet reached a perfect fruition, he must abide by them, defective though they be. As to a nurse assuming the responsibility, we question if in real life that sort of doubtful heroine could be found. As yet over-education on the part of nurses is not so frequent that a sermon against this kind of intellectual disfigurement can be preached. Even in the isolated cases where it shows some signs of growth, the mastery of the situation in the sick-room, which rightfully belongs to the attending physician, soon teaches her that her duties are subservient to his behests. Mrs. Louisa Chick in "Dombey and Son" was not a trained nurse, but when she requested her very ill sister-in-law, Mrs. Dombey, "to make an effort", she expressed much better philosophy than all the teachings which characterized the somewhat chimerical movement for the higher education of nurses as illustrated by the now defunct Cambridge School of Nursing.

ESPERANTO AS A UNIVERSAL LANGUAGE FOR PHYSICIANS.

A new Moses has arisen to guide the medical fraternity to the Promised Land of linguistic felicities. Physicians who have attended International

Congresses with due regularity have often remarked the multiplicity of languages spoken, and though the brave spirits among them have stood up to the task of comprehension, their superhuman efforts have often resulted in but a faint conception of the import of a paper. Linguistic intricacies and nuances of a foreign language are not easy of mastery; and even he who imagines his smattering of French, German and Italian will be a help in the understanding of a paper, soon finds that his Anglo-Saxon brain is so sadly muddled by what he hears that he could not fare worse were these languages an unknown quantity before attending the seances in the modern medical Towers of Babel. That small profit can come to those who make pilgrimages to polyglot medical shrines, even when desire for knowledge is in the ascendant, can readily be understood. Now to rid the path of the many stubbles incident to the foreignness of a tongue, so that a quick understanding of new theories may be effected, a new means has been devised by no less an authority than Dr. W. Winslow Hall of England.

The world at large has recently heard much about the good qualities of Esperanto. By good we do not mean anything pertaining to morality, but the ease with which the language may be learned, its simplicity of grammar, its absence of verbal intricacies, its perfect adaptability to all minds, be they large or small. Any language that is characterized by the aforementioned qualities has a right to bid for public favor; and far be it from us to discourage those who have closely followed in its wake, though we must say their frenetic enthusiasm has at times appeared to us, who are still uninitiated, a bit corybantic. But then we are still in the thralls of our modern Lindley Murrays; still unwilling to exchange for accustomed rough fields dotted with mountain-high obstacles, the smooth, smiling plain that has not even a hillock to show.

As we said before, we have known of the high qualities of Esperanto as a speaking language before now, but Dr. Winslow Hall, writing in a recent number of the "Lancet," sees many other possibilities, among them those entrancing, soothing and pleasure-giving qualities which we all crave especially when cudgelling our brains over the why and wherefore of the barbarism of foreign verbs. The following pertinent passage from the article will show to what lengths Dr. Hall's enthusiasm has carried him: "But it would be unfair to close without a word or two on the attractiveness of the study of Esperanto as a hobby for medical men. It is a quiet and clean occupation; it can be pursued in the pauses of one's practice; it is in itself a keen intellectual pleasure; it opens up a wide and curiously varied range of literature; it throws a marvellous light on our English language, on grammar, and on points of style. Withal, proficiency in this language is rapidly attainable; every one

may reasonably count on mastery; and then there comes the strong delight of wielding skilfully this brilliant, supple, clear, and comely mental tool. Further, Esperanto broadens a man's outlook; it can give to the loneliest country doctor correspondents and human interests in every quarter of the globe; it can make him indeed a citizen of the world and a universal brother. More than that, it has realised to such an extent the vague, expectant aspirations of our time that for many a man and woman, even now, it shadows forth the coming world religion."

When we recall the number of books which have been written on subjects pertaining to the desired solution of the language difficulties of the sorely-beset general practitioners, and their attendant failures, we should not withhold our earnest support from any enthusiast of something to alleviate our mental suffering as it stalks big at the bedside of a Greek or Russian patient. A book that was published some time ago, "Dolmetscher am Krankenbette" (The Medical Translator) by Paul Blaschke, 1907, Berlin and Leipzig: W. Rothschild, was hailed by us, before we read it, as the panacea of our linguistic troubles. But our beatific state lost all its supernal qualities directly we read its contents, for the instructions given were of the sort that only a grave German philologer, without any sense of humor, would be guilty of. For instance, the German physician, when ordering a blister for an English speaking patient, is told to say, distinctly: "Apply a Spanish fly behind his ear" and the German sentence "Reinigen Sie mir die Zähne" is rendered as "Clean me my theeths." Again "Machen Sie abwechselnd heisse und kalte Kompressen" is said to have its equivalent in "Mehk bai törns hott änd kohlt kätäplasms". Therefore if Esperanto can hold the cup of joy to our parched lips as they occur when listening to a medical paper in Russian, or a Bulgarian patient trying to make clear to our befogged intelligence the gravity of his suffering, another leaf will be torn out of the leaden Book of Torments.

A RECOGNITION OF SERVICES RENDERED BY HOSPITALS.

That hospitals should be compensated for services rendered to those who though belonging to the humbler classes, nevertheless receive such treatment that without it death would probably supervene, is an illuminating idea that has come to us by way of London. In a recent action tried in the King's Bench Division by Mr. Justice Darling the jury awarded to the plaintiff, a boy who had been seriously injured through being knocked down by an omnibus, £750 damages, and at the judge's suggestion the jury also decided to turn a certain part of the damages over to the hospital in which the boy had received the surgical intervention which saved his life. To quote Mr. Justice Darling: "In a case

like this, where a person receives the benefit of a charitable institution and such benefits as have been conferred on this boy; where it is perfectly obvious that the boy would have died but for the accurate diagnosis of the clever house surgeon, the immediate decision that an operation was necessary, and the calling in of a skilled surgeon; and where the staff of the hospital has exercised such skill, a substantial contribution should be made to the institution."

Here we have considerable food for thought. With a carelessness, not to say ingratitude, the public at large has always demanded the best medical or surgical treatment from our hospitals without so much as a thought as to the skill which is exercised by the physician or the surgeon at a critical moment, or the expense of harboring, with care and solicitude, a patient in regard to whom no idea of compensation could be entertained. The accepted fact that our hospitals with their corps of skilled physicians and surgeons must not withhold from a poor patient who has met with an accident or who is critically ill, the immediate relief which it is in their power to give, has passed beyond the province of controversy; but when after receiving the benefits which only scientific treatment can bestow, a patient is awarded damages, all courts throughout the world should imitate the wisdom which Mr. Justice Darling showed in the recent case tried in England.

The popular idea that the men who preside over the destinies of our hospitals are above recognition for their own services, and are indifferent to the welfare and prosperity of their institutions, is born of a figment on the part of the public that the best fruits of medical or surgical skill are theirs by right, irrespective of the possibility of a public acknowledgment as was instanced in the English judge's words, or a monetary return to a hospital in case damages are awarded.

Skill is only acquired after many years of apprenticeship; and to take it as a matter of course, to be had for the mere asking, is placing it on a low rung in our estimate of unusual qualities. Again, skill, as we all know, cannot always receive its due reward in a monetary sense, nor would we have the possessors thereof delight in its possession merely as a means to that end, but it should enjoy the compensations which come from an appreciative sense of its value. A public that jogs on from precedent to precedent and accepts a thing just because it has become inured to it, needs a jolt to awaken it to a proper understanding of certain abuses which, by custom, have become inherent in our social system. And the custom to regard a surgeon's skill and a hospital's care of the sick, especially in such circumstances when intervention is imperative, as a matter of small significance indicates an insatiable desire on the part of the public to get the lion's share of what this world offers,

with no better thought behind the effort than avarice, greed and selfishness.

THE COMING CONGRESS—WHAT IT SHOULD DO FOR THE MEDICAL PROFESSION.

The session of Congress about to convene in Washington bids fair to be a memorable one. Numerous measures, of vast importance to the country, will be presented to that body for its consideration and it is the hope of all of us that wise statesmanship, rather than party lines and special interests, may so govern Congress that the various legislative measures we are so much in need of may be promptly forthcoming and may be born with such strength as to immediately work for the country's good. And of all the measures for consideration the most important is the one involving the welfare and health of the army.

As a nation waxes rich and great it is looked upon with suspicion by other nations; it excites their cupidity in so far as its increasing wealth becomes a tempting object for plunder. No matter how righteous the nation may be it is subject to attacks of designing politicians and statesmen among all the nations of the world; and every now and then there comes a time when it must assert its own dignity and punish infringements on its personal rights.

To combat these untoward tendencies from without, a nation must have recourse to the law of nations and to its army and navy. Unfortunately the world has not yet reached a stage when a community can get along without a police force nor a nation without an army and navy. And they must be adequate! At the time of the Japanese riots in San Francisco last year, when the Japanese Government, according to press reports, was threatening us with retaliation, no thinking man among us but felt glad that our navy had strength to show and was not the poor excuse for a navy which obtained among us some ten years ago.

Americans have ever been kindly disposed towards their navy and willing to vote appropriations for its maintenance and increase. In times of war they have been kindly disposed and proud of their army, too, but in peace they are too prone to forget their little army which is being constantly trained and kept ready to form the basis upon which that large body of volunteers—really our main reliance—is to be placed.

Our present army, with one exception, is a wonderful organization. It is a highly trained little nucleus, built to the end that it may, in emergency, be instantly expanded so as to embrace a large body of citizen soldiery and furnish them with a corps of experts ready to perform the technical duties requiring a special training. The one weakness of our present army organization is its medical department and that is the most im-

portant department of all. Sherman said "an army moves on its belly," and so it does, but that belly must be kept in perfect working order or the army fails to move. Not only must that belly be provided with rations but there must be a medical department constantly on the alert to see that those rations are of the proper kind and that that belly is not poisoned with impure water. "An army moves on its belly"—rather it moves on its sick roll and the larger that roll the slower it moves.

The history of all wars, with the exception of the Russo-Japanese, has shown that far more men are lost through diseases than by being wounded and the sad part of it is that a number of these diseases are preventable. The records of the Japanese, in their war with Russia, as attested by all foreign observers, bear unanswerable testimony to the value of an adequate and trained medical department. Because of the efficiency of their medical officers they have reversed all records of previous wars. The causes of this deplorable deficiency in our military establishment and of the efforts which have been made to remedy it, were dealt with in an editorial in our May number. The matter has not lost in importance during the summer. On the contrary, certain events of the summer have shown us more clearly the necessity for having our little army perfect in all its parts. With the opening of Congress "A Bill to Increase the Efficiency of the Medical Department of the Army" will again be introduced. This bill has received the endorsement of the united medical profession of the country, of President Roosevelt, of two Secretaries of War and of the General Staff of the Army. It has already been passed by the Senate and would have been passed by the House but for a strange antipathy to the bill exhibited by the Speaker of that body and his refusal to allow the bill to come up for vote.

LITERARY NOTES.

In a letter recently printed in the Journal des Débats (Paris) there is a frightful picture of the ferocious manners of the Russians of today and the transformation that is going on in Russian society due to alcoholism, socialism, revolutionary ideas and the worst sort of ignorance. The physicians appear to be the principal sufferers from this chaotic state. "The workman in the large towns," says the writer of the letter, "is host to the grossest superstitions. It is nothing unusual for him to be tainted with the deepest cynicism which manifests itself in exhibitions of force and violence. This is particularly true of the Polish workman. At Warsaw, Lodz, and in fact throughout the Vistula region, an actual count of the acts of terrorism would be impossible. At present the medical practitioners seem to be the honored victims of the itinerant anarchists. By communicating with the Society of which they happen to be members to the effect that they were maimed whilst undergoing

treatment with their respective physicians, when the truth is they haven't so much as a scratch to show, they are sanguine of a large indemnity and, sad to relate, their hopes are often realized."

The procedure is of the simplest. About four or five call on a physician at the same time and demand, with little grace, a certificate attesting their infirmities. The physician, after examination, pronounces them in excellent condition and refuses to accede to their demands. Thereupon, these so-called heroes draw their pistols and level them at the inoffensive practitioner. Considerably frightened, he at once recognizes the character of his clients and knowing that resistance would be useless, addresses the following questions to each of the bandits: "What ails you, my friend?" "One of my lungs is gone." "And you, my friend?" "My chest is caved in." "And how about you?" (addressing the third terrorist). "O, I have a paralysis of all the nerves in my head!" And thus the farce continues. Docilely, the physician fills out the certificates and with due graciousness escorts his amiable clients to the door, thankful that the spirit did not move them to seize boldly some precious ornament as a souvenir of their memorable visit.

The Quarterly Journal of Medicine, edited by William Osler, J. Rose Bradford, R. Hutchison and W. Hale White has been issued by Henry Frowde, Oxford University Press. The names of the editors should prejudice us for the excellence of the journal, and to judge by the contents of the first number it will rank with the best English medical publications.

Every now and then we come across a book whose purport, while not apparently far-reaching, nevertheless awakens us to a sense of our own shortcomings. Such a book is E. V. Lucas's "The Gentlest Art." (The Macmillan Co.). Here we have an anthology of letters written by the best English writers and surely he must be a dullard who can not glean from its pages a few lessons in the art of letter writing. When we recall the stiff and academic style physicians indulge in, even in their intimate correspondence, we surely do not go far astray in recommending for the improvement of their epistolary manner, a book of E. V. Lucas's charm and human characteristics. A difficult art, indeed, is letter writing and mastered only by a few, but this should not discourage us for even though we may not achieve the distinction of perfection, we should strive to model our efforts after those letters that have the stamp of naturalness, in the hope that by so doing our own attempts will be more individualistic.

The well known German publisher, Carl Marhold, Halle a. S., has recently published G. von Voss's "Der Hypnotismus, Sein Wesen, Seine Handhabung und Bedeutung f. d. prakt. Arzt." While this small book teaches us nothing new on the subject of hypnotism, its compactness, terseness and thoroughness are highly commendable. Students would do well to read it on account of its complete résumé of a most interesting subject.

ORIGINAL ARTICLES.

THE PRESENT CLINICAL ASPECT OF STOMACH SURGERY.

By A. J. Ochsner, B. S., F. R. M. S., M. D.,

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It is indeed with great pleasure that I have accepted the invitation of your distinguished president to speak before this great Association on a subject which has been most interesting to me since its appearance on the field of surgery.

Stomach surgery has, since its introduction by Billroth, been fostered by the most active and brilliant members of our profession. In Austria the names of Billroth, Woelfler, v. Hocker, v. Eiselsberg; in Germany those of Czerney, Mikulicz and their assistants; in Switzerland those of Kocher and Roux; in France that of Hartmann; in England those of Robson and Moynihan, and in our own country, those of Mayo, Murphy, Munro, and that of your president, Dr. Tuholske, are all so well known that it is scarcely necessary even to refer to them.

There are, however, so many others who have contributed valuable work to this subject that in a review of the literature which I undertook nearly two years ago, and which I have continued ever since, I have been greatly impressed with the splendid work which has been done on all sides in this subject. In a limited paper it would be hopeless to give credit to even a small portion of these faithful workers and I will consequently give only the results of these observations without going into detail.

No Original Methods. I will, however, distinctly state two facts at the outset in order that I may not be misunderstood; 1st, I shall not introduce into this paper any method or idea for which I have any personal claim as regards originality or priority. All of the methods which I employ have originally been introduced by others, and have simply been chosen by myself because they have seemed better than others, and they have been retained because experience in their use has proven them to be valuable. Many other methods have been tried and discarded. Some of the methods now in use will surely be discarded in the future, although they seem best fitted for our use at present. There will undoubtedly be newer and better methods to take their places in the future.

All Methods have been personally tried. 2nd, these methods have all been tested personally by myself in every instance usually in many cases as I have operated upon more than five hundred patients for the relief of diseases of the stomach. Four hundred and nine of these patients were operated in the Augustana Hospital, and of these I have carefully kept histories.

Difference of Opinion Between Internist and Surgeon. It may be well to direct attention for a moment to some reasonable grounds for differences of opinion regarding the relative value of medical and sur-

gical treatment of stomach diseases by members of the medical and surgical divisions of our profession.

First: The cases of gastric disease which are speedily and permanently relieved by dietetic, hygienic and medicinal treatment by the internist never come in contact with the surgeon, hence he has no practical experience with the great amount of good that is accomplished in these cases.

Second: The surgeon does constantly come in contact with only those cases in which internal treatment has either failed altogether to give relief, or has given only temporary relief. To make this feature worse most of these cases have been declared cured repeatedly by the various internists who have treated them through their recurrent attacks only to relapse and fall into the hands of other internists, with the same result, until they have reached the care of the surgeon. He naturally imagines that because all stomach cases who come under his care belong to a class which each one of a number of internists imagines he has permanently cured, therefore all cases which the internist imagines cured must ultimately also relapse. This conclusion is however not borne out by facts, otherwise all cases suffering from gastric disease should at once be transferred to the surgeon.

Third: Another equally unfortunate experience comes from the fact that frequently cases of incipient carcinoma of the stomach are temporized with by the internist until the case is in a hopeless condition. Then the case is referred to the surgeon, while from the very nature of things, the only time when reference could have brought any benefit to the patient was at the time when the internist was first consulted.

Fourth: On the other hand the internist has equally deceptive experiences. He is constantly consulted by patients who have undergone stomach operations, only to be worse for the experience. Many of these cases have undergone several operations at the hands of several surgeons and have become successively worse.

Fifth: In many instances a gastro-enterostomy has prolonged the life of the patient suffering from pyloric obstruction due to carcinoma, only to prolong the patient's misery, and the internist has been forced to carry the burden of the patient's care during these weeks or months of prolonged suffering.

It is easy for the internist to imagine because he sees many cases who have not been benefited, and some that have been harmed, by their surgical treatment, and only few showing permanent cures, that therefore surgical treatment must be bad, forgetting that there is no reason why he should come in contact with the many satisfactory results, outside of the few cases which may have gone to the surgeon from his own personal practice and this number must, of course, always remain small.

Sixth: Moreover, the surgeon constantly encounters great indurated ulcers and advanced carcinomata which the internist has attempted to heal by internal remedies.

Seventh: On the other hand the internist encounters patients suffering from neurasthenia, locomotor ataxia and hysteria, which have either had

stomach operations advised, or actually performed, by over-enthusiastic surgeons.

In order that this difference may be eliminated as speedily as possible it seems most important that the internists make a regular practice of witnessing operations upon the stomach. If they see the pathological condition in the living body, in a large number of cases, they will become quite as thoroughly convinced of the value of stomach surgery as they are now concerning the surgical treatment for appendicitis, gall stones and renal calculi.

Fortunately many internists in the large hospitals are doing this, and this may result in a vast amount of good to a large number of patients.

On the other hand, the surgeon should take the time to observe the progress of patients, in the medical wards, suffering from acute gastric disturbances, including ulcers in their early stages before a marked induration has taken place, so that he may learn to appreciate what can be done in these cases by dietetic, hygienic and medicinal treatment.

This plan would result in convincing the surgeon that most patients suffering from disease of the stomach can be successfully treated to perfect and permanent recovery by dietetic, hygienic and medicinal treatment, the permanency, of course, depending upon long continued care in regulating the diet and hygiene of the patient after recovery from the acute condition. This point has been sadly neglected by internists and quite as commonly by surgeons, after the patient has recovered from an operation.

The surgeon will also learn that, barring cases of perforation and traumatism and uncontrollable hemorrhages and malignant growths, only those cases of stomach disease are suitable for surgical treatment that have failed to be permanently relieved by careful, persistent dietetic, hygienic and internal treatment.

The internist, on the other hand, will also learn to place this class of cases under surgical treatment relatively early.

Conditions to be secured by surgical treatment. At the present time surgery of the stomach is limited in its results to three conditions:

1. The closure of the defect following perforative ulcer or gunshot or stab wounds, or rupture of the stomach due to traumatism.
2. The establishment of drainage in cases of obstruction of the pylorus due to neoplasms, cicatricial contraction, the presence of indurated ulcer or hour-glass stomach in the adult, and the presence of congenital stenosis in children.
3. The removal of neoplasms; and possibly
4. The correction of gastroptosis.

Whatever operation is performed for the relief of gastric disease it is reasonable to demand that conditions be established which will place the stomach, as nearly as possible, in a normal condition from a mechanical standpoint. On the other hand it is reasonable to expect this organ to be somewhat less perfect in a mechanical or anatomical way than a normal stomach even after the most perfect operation.

At this point it may be well once more to direct attention to the mechanics of gastric digestion. In order to make this more easily understood the accompanying diagram may serve as an illustration.

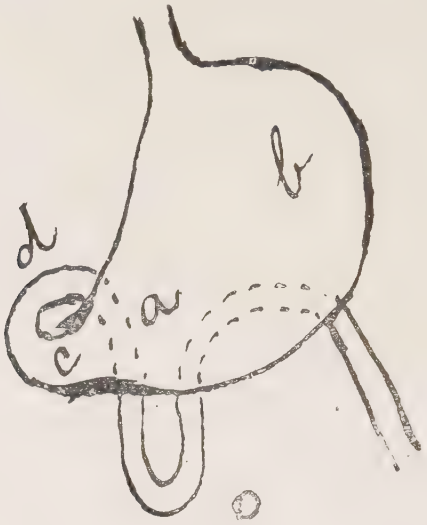

Fig. 1.

We must look upon the stomach as a machine with five distinct functions: First, it serves as a store room for one meal; second, it secretes certain substances necessary in the digestion of food; third, it serves as a mixing machine which saturates these foods, which are held in storage with the substance secreted; fourth, it grinds the food into fine consistency proper for the further steps, which are accomplished after this substance has been forced through the pylorus into the intestinal canal; fifth, to a very slight extent absorption of food takes place directly from the stomach, but this is almost a negligible factor.

As a matter of fact it is always proper to consider the duodenum with the stomach because the two portions of the alimentary canal are really one organ, both as regards their embryonic origin and their physiological function, and these two portions are also closely related in their diseases.

Referring to the accompanying figure, the portion *b* must be looked upon as the storehouse and mixing apparatus, and the narrow portion *a* as the grinding apparatus. The position of the stomach favors the accumulation of the finer portions of food at *A* where according to Cannon they are crushed back and forth until a suitable consistency has been reached when the pylorus *C* opens and a definite quantity is forced into the duodenum *D* which again serves as a mixer, the material added at this point consisting of bile and pancreatic fluid.

It may be plain that any one of the operations mentioned above, must interfere, to some extent at least, with some portion of this mechanism, and it is for this reason especially, that we should never interfere with this organ surgically if it is possible to restore the latter to even an approximately normal anatomical condition, by dietetic, hygienic or

medicinal treatment. The result after the most perfect operation cannot produce a stomach which will bear the dietetic abuse that can be imposed upon a normal stomach.

There is no doubt that many a patient would remain permanently well after recovering from ulcer of the stomach, after a careful course of dietetic, hygienic and medicinal treatment, if he would subject himself constantly to the care which becomes imperative after a stomach operation.

Those internists who appreciate this fact, and who tyrannize over their patients for years after their recovery from gastric ulcer are the only ones whose patients do not ultimately seek relief from surgery.

It may then be stated as an axiom:—

1. That certain conditions, like gastric perforation and gastric neoplasms, should receive surgical treatment as soon as a diagnosis has been made.

2. That other diseases of the stomach, like gastric ulcer and its sequelæ, should receive surgical treatment whenever it becomes apparent that the condition cannot be relieved by dietetic, hygienic and medicinal treatment.

That a vast majority of gastric ulcers will heal under careful and persistent dietetic, hygienic and medicinal treatment, has been demonstrated, not only by clinical observation, but also by many careful experimental studies upon animals, notably those by Fibrich and those by Fuetterer. In all of these cases one must however bear in mind that most of these patients started with normal stomachs, and that as a result of certain hygienic and dietetic conditions or abuses to which they were exposed, this pathological condition has resulted. Taking for granted then, in any given case, that the lesion has healed perfectly, it is not reasonable to expect this lesion to remain well unless the conditions which gave rise to the disease primarily are permanently eliminated.

It is therefore extremely important not only in the after-treatment of patients who have been relieved of their gastric diseases by internal treatment, but also in those that have undergone surgical tratment, that sufficient attention be paid to hygienic and dietetic conditions after the patient has fully recovered.

Relief of pyloric obstruction. More real benefit is done the patient by relieving pyloric obstruction than by accomplishing all other surgical results in stomach surgery. This makes it proper to give this feature some especial attention in this discussion.

Whatever the cause of obstruction may be at the time the patient comes under the surgeon's care, in a vast majority of cases the primary cause was an ulcer in this portion of the stomach which is most exposed to trauma from within because of its especial function.

The obstruction may still, although only rarely, be due to spasmodic contraction due to the presence of an ulcer; it may be due to the healing of an ulcer, or to the implantation of a carcinoma in the base of an ulcer, or even to adhesions due to the threatened perforation of an ulcer.

The symptoms will vary with the extent of the obstruction and the

acuteness of the condition, but there is usually quite a definite course which may be followed in most cases which have persisted sufficiently long to come under the care of the surgeon.

Clinical course of these cases. Clinically these patients either recover under dietetic and hygienic treatment, or the stomach undergoes anatomical changes such as are illustrated diagrammatically in figure 2.

Fig. 2.

The case in the meantime takes the following typical course. In non-congenital cases, the obstruction at the pylorus in its early stages is accompanied with a considerable degree of pain, which is usually located between the ensiform appendix of the sternum and the umbilicus. The patient feels distressed after eating, and the distress is more marked after the ingestion of certain foods. The patient begins to classify various articles of food according to the amount of discomfort they produce. Acids and raw fruits usually cause the greatest amount of distress. During this portion of the course of the disease, the distress is usually greater if a large amount of food is taken, than if the patient eats but a small amount. Gastric lavage will show the presence of a great amount of mucus, which is secreted for the purpose of protecting the painful point. At this time the stomach is not enlarged, and there is frequently a compensating hypertrophy of the muscular wall of the stomach to overcome the obstruction at the pylorus. If the latter persists, however, hypertrophy will give place to dilatation; this will at first be slight in

degree, as shown at 2 in figure 2. In the meantime, the accumulation of mucus interferes with the gastric digestion because it covers the surface of solid portions of food which have been placed in the stomach. To compensate for this condition, there is a physiological increase in the secretion of hydrochloric acid, which in turn causes an increase in pain because of its irritating effect upon the pyloric ulcer. The difficulty of emptying the stomach contents into the duodenum will now be increased from one of two causes. The ulcer may become partly or completely healed, and this may result in cicatricial contraction of the pylorus which will in turn increase the obstruction; or, the base of the ulcer and the tissues surrounding the ulcer will contract, thus causing a mechanical increase in the obstruction. A third condition which has frequently been mentioned as an important cause, is the spasmodic contraction of the sphincter muscle of the pylorus, due to the presence of an ulcer within the grasp of this muscle. It is likely that this factor is more active in the early than in the later stages of pyloric obstruction.

In the meantime, the dilatation of the stomach continues as indicated at 3, figure 2, so that the greater curvature extends a considerable distance below the umbilicus. This dilatation may be so great as to permit the greater curvature of the stomach to rest in the pelvis of the patient, a condition observed in one of my patients. This condition induces another important factor in the mechanism of digestion. In the normal condition the food in passing from the stomach into the duodenum, must be elevated only the distance from C to F, in figure 2, while in the extremely dilated stomach it must be lifted the much greater distance from 3 to F, figure 2. Moreover, the course which the food has to pursue in passing from C to F, extends over a smooth, non-sacculated surface, while in its course from 3 to F there is likely to be formed at 4 a valve-like projection which will serve as a serious obstruction to the passage of food through the pylorus into the duodenum. At this point of the course of the disease, the stomach becomes incompetent to empty itself completely and there remains constantly in this lower pouch a certain amount of residual food. Here, as in every cavity in the human body, the retention of residual contents favors the development of micro-organisms and in a short time a severe degree of fermentation and decomposition will take place, and the patient will begin to absorb these products of decomposition instead of absorbing the products of normal digestion. At this point severe symptoms of malnutrition will appear. A careful use of gastric lavage, together with hygienic and dietetic treatment will frequently prevent the progress of malnutrition by removing these decomposing substances, and supplying food which can readily be absorbed. But it is not likely that in any of these advanced cases the mechanism can be restored to approximately normal conditions without the aid of surgical interference. In cases, however, which have not progressed to this extreme degree, it is undoubtedly frequently possible to restore the anatomical conditions to approximately a normal state.

It is well to emphasize especially the importance of hygienic measures. One frequently encounters a case of almost hopeless stomach disease in

a person of sedentery habits, over-worked mentally, who goes out on the plains, and returns after a number of months with the best stomach in town. So it is well to impress the importance not only of dietetic and medicinal, but also of hygienic measures.

We have then a stomach that is hopelessly ruined. After having tried all these measures we find that the stomach is still in this pathological condition. At this point the condition may be accompanied by an open ulcer, or the ulcer may have healed and there may be a cicatricial obstruction at the point of its location, or this obstruction may be due to a more or less extensive induration at the base of the ulcer.

If the ulcer is still open, we have a number of very definite complications to fear, besides the malnutrition, the discomfort and the disability of the patient. We have to consider the possibility of perforation of this ulcer and immediate sudden death of the patient, the latter losing his life by the loss of a great amount of blood suddenly, or by intermittent hemorrhage. We must also consider the possibility of having a carcinoma implanted upon this ulcer.

That this condition occurs in many cases of chronic ulcer of the stomach has been observed by many surgeons. It has been investigated with great care in a very large number of cases by Graham.

At this point it may be well to emphasize the fact that in this condition, as well as in all other intra-abdominal conditions, such as pyosalpinx, appendicitis, extra-uterine pregnancy, gall bladder disease, the diagnosis has been perfected to a reasonable extent only as a result of the operation. When operations were begun for each and every one of these conditions, the views which we held were extremely vague. It has only been from the fact that as a probable diagnosis was made, and it was either proven or disproven by a surgical operation, we have been able to come to a reasonable degree of certainty in our diagnosis. So that both the surgeon and the internist should, in every instance in which the abdomen is opened for the relief of a condition of the stomach, be present at the operation, and should determine whether the ideas formed concerning the conditions to be found are correct or incorrect; because upon the ability to diagnosticate them properly will depend our ability to treat these cases properly later on.

Technic. The general technic of stomach surgery must be learned at the operating table. More can be learned in a week's observation in the operating room of any one of the many great clinics in which gastric surgery is practiced in this country and abroad than by listening to descriptions or reading them for months.

There are, however, a few fundamental principles which must be observed in order to secure permanently satisfactory results.

1. The amount of traumatism must be reduced to a minimum.
2. The intra-abdominal organs must be exposed as little as possible to cold air or cool pads.
3. The patient must be placed in a sitting posture as soon as possible after the operation.

4. In case of closure of perforation, the direction of the wound must be chosen so as not to result in obstruction later as a result of cicatricial contraction.

5. In case of excision of a neoplasm, all the tissue closely connected must be removed with the growth to the greatest extent possible in the presence of existing anatomical relations.

6. In gastro-enterostomy the lowest portion of the stomach must be chosen, no matter whether anterior or posterior gastro-enterostomy be performed, the latter however being preferable.

7. There must be no tension upon any sutures in any gastric operation.

8. Except in complete gastrectomy, the coronary artery must always be preserved.

9. In patients with an unusually fat transverse meso-colon, in whom posterior gastro-enterostomy is performed, the opening should be torn very large and the edge should be sutured to the stomach in order to prevent obstruction.

10. In case of acute gastric dilatation following any stomach operation, a stomach tube should at once be introduced and gastric lavage be employed, care being taken not to introduce more than one-fourth liter of water at a time.

11. The simplest possible technic should be employed, preferably without the use of mechanical apparatus.

STASIS HYPEREMIA (Bier).

By M. G. Seelig, M. D., of St. Louis, Mo.

In this brief paper on the subject of stasis hyperemia, I shall endeavor to sketch in outline and general resume both the scientific and the clinical aspects of the subject. The attempt will be made, therefore (1) to trace the origin of the idea developed by Professor Bier, (2) to describe the types of hyperemia, (3) to outline the physiological action of hyperemia and (4) to comment on the clinical results secured.

During his early career, while investigating the observation of Rokitansky, that patients whose lungs were the seat of chronic congestion, resulting from mitral insufficiency, rarely suffered from pulmonary tuberculosis, Bier was struck by the thought that chronic pulmonary hyperemia was a prophylactic against tuberculous inflammation. After taking up his residence at Kiel in Esmarch's clinic, and later at his own clinic in Griefswald, he elaborated his ideas along the line that hyperemia, properly induced, was a curative agent, to be used against almost all types of chronic inflammation. In 1893 he published his book *Hyperaemie als Heilmittel* (Hyperemia as a therapeutic agent) but the work attracted only moderate attention. Meanwhile, he had been called to the surgical chair at Bonn where he continued his investigations and where he made the announcement that succeeded both in bringing his views into the limelight and in keeping them there. The doctrine which served to establish hyperemia securely as a therapeutic measure, was that it was curative not only for chronic inflammations, but also for acute surgical infections. It may be said at the very outset that the views enunciated by Bier have been confirmed and reconfirmed.

No brief presentation will do full justice to so broad a subject as hyperemia. A study of Bier's published work is an absolute essential to a thorough comprehension of all the principles involved and the methods used. Not the least important part of the book is the illuminating preface, in which is stated in popular terms, reasons for revising our views concerning the phenomena of inflammation until they fit in with facts developed by modern investigative work. Inflammation itself is not a noxious process; on the contrary, regarded in the Darwinian sense, it is one of the variations fitting the organism better to its environment. On this basis, the underlying phenomenon of the whole process of inflammation—hyperemia—is not a symptom to be shunted off, but a symptom whose development is to be encouraged.

Rational encouragement of this sort necessitates a knowledge of the types of hyperemia. Of these types, there are two, active hyperemia, and passive hyperemia. Active hyperemia is induced by securing a more rapid arterial flow, passive hyperemia by retarding the venous return. Heat (hot water or air) vesicants, counterirritants and massage, all induce active hyperemia, and of all these methods, warmth is the best. By numerous experiments and logical inductive reasoning, Bier shows that this active hyperemia occurs independently of the action of the central nervous system, and is not confined to the skin, but extends to

the tissues underneath. Passive hyperemia is induced in one of two ways, either by obstructing the venous return by means of a band wound about an extremity, or by means of cups or larger vessels out of which the air may be exhausted with a pump. An elastic band properly applied about the arm to induce an hyperemia, causes first a turgescence of the small subcutaneous veins, then of the larger veins; the skin of the arm gradually assumes a bluish tint, while the fingers are fairly red. On the palm of the hand there develop small, circumscribed, whitish spots. After about three hours, the entire extremity, palm and fingers included, are a bluish red and the veins stand out prominently, but not as prominently as before. By finger pressure one can make out that there is slight edema. All the while the pulse at the radial should be full and strong. After about ten hours the edema is much less noticeable than before, but the whole extremity which is noticeably larger than before congestion was begun, is distinctly warm to the touch and is free from pain. Passive hyperemia, in common with active hyperemia, though practiced by the ancients, had fallen into practical disuse until revived as a result of Bier's investigations. Ambrose Pare advised congesting a limb by means of a constricting band in case of scanty callous formation and there is reliable evidence to prove that the aborigines used the horns of animals as cups.

Such then being the types, what can be said of the physiological action of hyperemia? It will be borne in mind that immediately following the induction of hyperemia, the parts dealt with are more richly supplied with blood and lymph. In the case of active hyperemia, there is a more rapid inflow of blood and lymph; in the case of passive hyperemia an impeded outflow, and, hence, in both instances, a larger quantity of these body fluids are present.

The physiological action resultant from this influx may be embraced under five heads: Lessening of pain, destruction of bacteria, absorption of exudates, solution of dead cells, tissue and debris, and increase in nutrition of the part. To take these up seriatim.

Lessening of pain: Bier states that no physiological action of properly induced hyperemia is more pronounced than is the lessening of pain, such as that accompanying a rheumatic joint, an acute phlegmon and certain types of headaches or neuralgias. The explanation of this pain-quelling property is the same as that offered by Schleich for infiltration anesthesia, viz., that the edema caused by the hyperemia, saturates the tissue and thus lessens the irritability of the sensory nerve endings.

Bactericidal action: The brilliant experiments of Noetzel (Arch. f. klin. Chir. B. 60. H. 1.) illustrate better than any other statement just what is meant by saying that hyperemia is bactericidal. Notzel administered fatal doses of anthrax bacilli hypodermically to 51 guinea pigs. The injections were made into areas that had been subjected first to a process for inducing hyperemia and not one of the animals died. A few weeks later these same pigs were injected with the same doses but not in the presence of hyperemia and they all died. The explanations offered for this bactericidal power are numerous, and the investigative

work done along this line is far too voluminous to permit detailing it here. Suffice it, therefore, to say that this property may be due to the local accumulation of antibodies, to an increased number of phagocytes and an increase in their phagocytotic powers, to locally heightened alexin power of the blood, to a local increase of CO^2 which is bactericidal, or to an increased opsonic index. Bier himself confirms none of these theories, satisfying himself merely with the statement that they all demonstrate the fact that the bactericidal action of hyperemia is in accord with the modern ideas of infection and immunity.

Increased absorption: As regards the increased absorptive power induced by hyperemia, Bier shows that active hyperemia in all parts of the body favors absorption directly into the blood stream, and that passive hyperemia delays this absorption until the body fluids have rendered the elaborated toxins partially innocuous. Lexer (Muench. Med. Wöch. No. 14, 1906) has used this phenomenon as an argument against the therapeutic value of hyperemia. He asserts that absorption is delayed by obstructing the venous return but he believes that removal of the obstruction is followed by the sudden circulation of a large amount of endotoxines resulting from bacterial death in the congested area. This contention of Lexer has not been confirmed.

Solution of dead cells and tissue debris: There are numerous pathological conditions for which a cure demands, first, that extraneous matter be disintegrated, such as blood clot, fibrin, young connective tissue and tissue bruised beyond repair; that hyperemia favors and directly leads to such absorption is confirmed by the numerous cases reported in literature in which joint adhesions, tendon sheath nodules and even keloids have disappeared. This power to dissolve we may well attribute to the increased number of phagocytes and to the increased quantity of fluid brought to the part through the agency of hyperemia.

Increase in nutrition: As a factor in increasing nutrition, hyperemia accomplishes its end in one of two ways. (1.) It may increase the nutrition to parts not invaded by disease. For example, true muscular hypertrophy not uncommonly follows hyperemia consequent to axillary or femoral thrombosis. In summer, when the skin is more vascular than in winter, the hair and nails grow with perceptibly more rapidity. In congested lungs, the lining epithelium grows so rapidly that it is cast off in quantities giving the so-called heart-failure cells in the sputum. In the congested area about a chronic ulcer, the epithelium always shows active proliferation. The hands and arms of a surgeon are usually covered with long hairs as a result of the hyperemia due to frequent scrubbing. (2.) It increases the nutrition to diseased parts, thus favoring regeneration. The proof of this statement rests almost solely on the now innumerable cases in literature in which tuberculous joints and bone lesions, defective callous formation after fracture, and persistent suppurating foci and tracts, show tendencies to rapid healing after being subjected to stasis hyperemia.

We now come to the proper method of inducing hyperemia, and here let it be said that the name of Bier is associated intimately, not with

hyperemia, but with "stauungs," or statis hyperemia. In other words the hyperemia that is being used so extensively today is not active hyperemia induced by massage, counterirritants and heat, but passive hyperemia induced by partially obstructing the venous return. The technique of inducing passive hyperemia varies in accordance with the method used. If cups are used the stasis hyperemia results consequent to vacuum formation, whereas if the constrictor is used, the hyperemia results from actual mechanical opposition to the venous return. The constrictor, a 2½ inch Esmarch bandage, is applied by taking several turns about the extremity proximal to the lesion; just enough force should be used in applying the bandage so that the extremity becomes neither cold nor mottled blue in color and so that the patient does not suffer discomfort. The radial artery, or the dorsalis pedis, must continue to pulsate with a fair degree of force, the superficial veins must stand out prominently, the skin must show the deep bluish red color of hyperemia, and after a time there should be signs of slight edema. In the early editions of Bier's book he recommended 18-20 hour applications of the constrictor, but his last advice is to use it only for one or two hours at a time. When the cups are used the vacuum created should not be so complete as to cut off the circulation, and the cup should be left on for three-fourths of an hour, during which time it should be removed for about a minute every five minutes. One factor of great importance in the use both of the constrictor and the cups, is that egress should be afforded any pus by a small incision. For an abscess the size of half a fist I use an incision one-fourth inch long. After the area involved has been congested for the desired time, a wet pack is applied, all drains and wicks being dispensed with. In markedly indurated and inflamed infections, it is well to make a small incision, even if no pus is present, but if there be a single or multiple foci of pus, as, for example, one on the dorsum and one on the palm of the hand, it is absolutely essential that each focus be opened by means of a minute incision.

In regard to clinical results, time does not permit me to detail to you the almost innumerable cases recorded in literature. I shall confine myself, therefore, to the bald statement of two facts: firstly, that all the clinicians who have used stasis hyperemia properly, as a therapeutic measure, are practically unanimous in the praise they accord the method in their publications; secondly, that in my own hands, the method has yielded results which I do not feel I am over-enthusiastic in characterizing as astonishingly excellent. I have used the method in over 150 cases at the Jewish Dispensary, during the past two years, and it has never failed, when properly applied. I have shortened the duration of treatment from 50 to 75 per cent. and our patients have been spared the pain and discomfort attendant upon large granulating wounds and packed sinuses.

In closing, just one word regarding the contraindications to the use of hyperemia. So far, according to Bier, there are only two specific contraindications, viz., diabetes and hemorrhage. Some authors have contended that acute streptococcic infections are aggravated by the use of the method; but in answer to these men Bier replies that the aggravation of the symptoms has been due, not to hyperemia, but to improperly induced hyperemia.

A BRIEF REPORT OF THE FIRST YEAR'S WORK AT THE CLINIC FOR COMMUNICABLE LUNG DISEASES OF THE ST. LOUIS CITY DISPENSARY.

By Louis M. Warfield, M. D., St. Louis, Mo.

The Clinic for Communicable Lung Diseases of the St. Louis City Dispensary was opened on July 6, 1906, and placed in charge of one assistant dispensary physician. The work has grown slowly, but surely. It has already been found necessary to divide the work between two men, and we look forward very soon to a reorganization of the department that, it is believed, will add much to its efficiency.

It was soon apparent that a dispensary without a visiting nurse was not of much value either to the one in charge or to the community. People would present themselves for examination once and never return. Some dragged themselves to the dispensary and then went back home to bed, never to return to the clinic. Although earnest efforts were made to instruct all who came to the clinic as to the dangers of the disease, the precautions to be taken by the patient and his family, and literature was given to all, it was felt that unless there was a nurse who followed up such cases, the usefulness of the dispensary would be much curtailed.

It was in this crisis that the Society for the Relief of Consumptives was organized. Our main object was to go after the individual consumptive and show him how to live so that he might become not only less of a menace to his family and the community but also to himself. We believed that the proper way to spread the antituberculosis propaganda was to make every patient a focus of education in his small circle of acquaintances, for we were certain that what he could say from his own experience would carry much more weight than many set lectures. Not that we neglected the lecture side, but we felt that it was imperative to have active lieutenants in the slum districts.

About the middle of January, 1907, we put into the field in St. Louis the first visiting nurse who was to devote her time exclusively to patients suffering from tuberculosis in all its forms, but particularly consumption. Later the society was consolidated with the already existing Society for the Prevention of Tuberculosis, and we were able to add another nurse to our work. These nurses are paid by the Society for the Relief and Prevention of Tuberculosis, and although most of the cases on their visiting lists are patients of the City Dispensary tuberculosis clinic, the city has not, thus far, contributed to the support of the nurses. We hope that this will come later. We do not see that it is possible to carry on a successful campaign without the aid of the nurses. In our opinion they do far more good than the doctors among the class of patients seen in dispensary work. For some time to come the educational work, at least in St. Louis, must necessarily be the most important part. While physicians and interested laymen are doing their part in lecturing and in pamphlet distribution, such methods of work but skim the surface, leaving untouched the class of people whom it is most imperative to educate. Where the disease lurks, where there are the largest numbers of victims,

where intelligence is least, there must be the starting point in the education. It is in this very foundation work that the nurses are found to be invaluable. True, their work does not shine out, but the amount of cheer and hope that they infuse into the homes where they visit can never be estimated. They are the true soldiers, the real fighting strength of the campaign. Not only do they educate to better methods of living those who are already afflicted, but in many cases they have brought suspected cases to the clinic, and in some of those were found the early lesions of tuberculosis. This alone is sufficient to show the necessity of the visiting nurse.

Our nurses are doing splendid work in the face of many discouragements and, at times, I regret to say, some passive resistance from those who should be among the first to assist in this work. Their unfailing cheerfulness, in spite of all the difficulties, makes our work much lighter, and their enthusiasm stimulates those of us in charge of the work to greater efforts. No community can do without the nurse in this anti-tuberculosis campaign. One might as well go to war without weapons and expect to conquer the foe. To any city contemplating an active campaign, I say first get an enthusiastic nurse; she is more important than a doctor. Perhaps some will think that I put it too strongly, but those who have tried to work without the help of the nurses or of the "voluntary visitor" will, I believe, agree with me.

In my clinic were encountered the same difficulties that have been spoken of by other dispensary workers. I am inclined to think that owing to the class of cases that I have seen, I am a little more unfortunate than many others. As elsewhere, people purposely gave fictitious names and wrong addresses. They came once only. In my work the majority of the patients were men of the common laboring class who lived in lodging houses or cheap boarding houses. Most of them were in the advanced stage of the disease. The majority had spent all their money on "doctoring" and were absolutely destitute, and many were heavy drinkers. Many refused to go to the hospital and we have no law to compel them to go. They came to the clinic two or three times, giving every time a different address, and then vanished. What becomes of these "floaters" is a problem. Thus far we have not succeeded in keeping track of them. How to corral these disseminators of disease is a grave question that should be taken up and solved by our legislators at the very earliest moment.

All sputa from the patients were examined by the city bacteriologist at the laboratory of the City Hospital, over a half mile away from the dispensary. This was the most feasible method. The separation of our City Dispensary from the one City Hospital necessitates the sending of all specimens to the laboratory. There is no assistant in the clinic. The arrangements are very crude; two bare rooms on the ground floor of an old building, each with one window on the north. One is the waiting room, the other is the examining room. There is no separate room for males and females, and no dressing room. Moreover, the rooms are on the busiest traffic street in the city where at times the noise is so great

that examination is impossible. However, it is a start and we hope before long that we shall have better quarters. Patients who have throat complications are sent to one of the throat clinics connected with one of the medical schools.

A very unsatisfactory part of the work is the limited facilities for properly housing the cases and the lack of administrative control of the indigent advanced cases. The hospitals for advanced cases, the male and female wards of the City Hospital, and Mount St. Rose Hospital (a charitable institution), accommodating in all about one hundred and forty patients, are totally inadequate to care for the tuberculous poor. Moreover, there is not a single hospital, with the exception of Mount St. Rose, which is far from the center of the city and has a limited capacity, where private patients suffering from the advanced stage of the disease can be sent. I do not agree with the attitude assumed by the governors of private hospitals in regard to admission of patients with tuberculosis of the lungs. I can see no valid reason for excluding from private rooms such patients. It appears to me that by the exercise of the proper care, the dying consumptive attended by a special nurse is a source of danger that exists only in the imagination. A crying need is for more hospital facilities for such unfortunates.

In regard to the incipient and fairly early cases, those who seem to have a chance to recover completely, the situation is acute. The local Society for the Relief and Prevention of Tuberculosis has been earnestly working to get a plot of ground where we can start a tent colony. The summer has almost gone and although we have visited place after place, we seem to be no nearer our sanatorium than we were six months ago. It is truly discouraging. What hope is there for a person who lives on the ground floor of a tenement, in a room with one window looking at a blank wall a few feet away, surrounded by factories that are pouring out volumes of soft coal smoke laden with poisonous gases, when the patient or the family is too poor to move into better quarters? If this were an isolated case, means might be found to move such a person. But this is one of many. It makes us heart-sick to feel that such people might get well, yes, some surely would get well, could they only be placed where sunshine and fresh air and pleasant surroundings were. "Home treatment" for such people is absolutely out of the question even if we had the money to give them all the food that they should have. Besides, our landlords thus far have shown anything but a desire to assist us in our efforts to clean up some of the filthy places where some of our cases live. An earnest effort was made to start a class, but we regret to say that it was a failure. I am convinced that the class treatment has a very limited application. Among such patients as those who visited my clinic the free sanatorium is the only place where they may hope to recover their health. Perhaps before long a second Henry Phipps will arise in our midst who will be glad of the opportunity to sacrifice something while he lives in order not only to see the good that he can do, but also

to feel and know that his name will go down the high road of time as one of the really great benefactors of his suffering fellow men.

Many of our patients must be dead, more than twenty, but it impossible to say. The fact that so many were in the advanced stage of the disease when first seen would speak for a large death list. It was impossible from the nature of the large number of our cases to follow them up.

STATISTICS.

Total number of cases for year ending July 6th, 1907	421
Cases diagnosed tuberculosis of lungs	185
Bacilli found in	121
Bacilli not found (one case reaction to tuberculin)	25
No microscopical examination of sputum made	39
Cases of probable tuberculosis	25
Cases of doubtful tuberculosis	10

AGE.

Under 5 years	1 case	30-40 years	53 cases
5-10 years	1 "	40-50 "	42 "
10-20 "	14 "	50-60 "	15 "
20-30 "	54 "	60-70 "	5 "
Sex: Male	126 cases	Color: White	166 cases
Female	59 "	Colored	19 "

Previous illness that had a bearing on the disease:

In 17 there was pneumonia.	In 10 there was pleurisy.
" 11 " " influenza.	" 3 " " fistula in ano.
" 5 " " typhoid fever.	" 3 " were glands in neck.
" 2 " " an injury to the chest.	

EXPOSURE.

Cases exposed to members of immediate family	42
Cases exposed to husband, wife, or other individual	20

MODES OF ONSET.

Cough in	112 cases	Directly following pertussis	2 cases
General malaise in	29 "	Directly following pleurisy	1 "
Malaria (?)	4 "	With a tuberculous pneumonia	3 "
Gastric symptoms in	5 "		

HEMORRHAGE.

At onset	26 cases	During course	58 cases

COMPLICATIONS.

Otitis media occurred in	2 cases	Cirrhosis of liver	1 cases
Iritis occurred in	1 "	Pneumothorax	3 "
Ischio-rectal abscess	1 "	Intestinal tumberculosis	1 "
Arteriosclerosis	1 "	Psoas abscess	1 "
Thickened pleura	3 "	Tuberculous laryngitis (?)	12 "
Preurisy with effusion	1 "	Syphilis	1 "
Goitre	1 "		

COMPLICATING HEART LESIONS.

Mitral stenosis	2 cases	Aortic insufficiency	1 case
Mitral insufficiency	1 "	Myocarditis	2 "

STAGE OF THE DISEASE.

Acute tuberculosis	6 cases	Moderately advanced cases	74
Incipient tuberculosis	12 "	Advanced cases	93

SITE OF THE LESION.

Right apex	23 cases	Right lung	27 cases
Left apex	11 "	Left lung	24 "
Right upper	58 "	Both lungs	13 "
Left upper	21 "	Right upper and left apex	3 "
Right lower	4 "	Left upper and right apex	2 "
Left lower	3 "		

OCCUPATION.

Laborers	74 cases	Salesman	5 cases
Housework	39 "	No occupation	5 "
Porter	6 "	Iron foundry	2 "
Waitress	5 "	Carpenter	2 "
Shoe factory	5 "	Cigarmaker, bartender, drug clerk, upholsterer, cooper, butcher, seamstress, interpreter, bookbinder, stenographer, reporter, etc., one each.	
Granite cutter	5 "		
Clerk	6 "		
Cook	6 "		
Laundress	3 "		
Janitor	3 "		

CASES OTHER THAN TUBERCULOSIS.

(The list is a long one, so only a few will be given).

Normal	45 cases	Not diagnosed	8 cases
Asthma and chronic bronchitis	12 "	Influenza	17 "
Apprehension	18 "	Intercostal neuralgia	3 "
Simple anemia	13 "	Aortic insufficiency	3 "
Arteriosclerosis	8 "	Aneurysm	1 "
Acute bronchitis	8 "	Pleurisy, with effusion	2 "
Pneumonia, acute lobar	9 "	Pleurisy, simple fibrinous	1 "

It will be noted that although 185 cases were diagnosed tubercuolsis, there were 84 cases in which no bacilli were found. Such cases included either no sputum examination in an advanced case from whom no specimen was obtained and who was seen but once, or one examination of sputum only. Further examinations could not be made for the patient never was seen again. In all these cases the symptoms and physical signs were sufficient to enable one to make a positive diagnosis.

My cases confirm the already large mass of evidence in regard to the prevalence of the disease in early adult life. Between the ages of 21 and 40 years there were 107 cases (57.8 per cent). If we include also the decennial 41 to 50, we have 149 cases (80.5 per cent).

We think it strange that we should have had so few negroes, especially in view of the fact that there is here a very large negro population, the death rate from tuberculosis among whom is much greater than among whites. It is difficult to account for this.

In some of the cases a pneumonnia, or influenza, or an attack of measles was followed shortly by symptoms of tuberculosis. Two observations struck us very forcibly: (1) The infrequency with which influenza is followed by tuberculosis; (2) the infrequency of previous gastric symptoms. Recently Galbraith (Practitioner, June, 1907) has stated that in 83 per cent of 150 cases dyspepsia was present as a very early symptom. Possibly the low order of intelligence of the majority of our patients accounts to some extent for the small number of those who confessed to stomach symptoms. Then, too, so many were seen several months after the initial symptoms that they may have forgotten trivial things such as mild stomach troubles.

Cough, as the table shows, was the most frequent initial symptom. As these cases were all questioned by one individual and history forms were used, we believe that these figures are substantially correct. A neglected, apparently ordinary, cough was the starting point in 112 cases. The 26 cases who gave a history of hemorrhage as the initial symptom were sure that up to the time of the hemorrhage they were perfectly

well and strong. It is remarkable for how long a period hemorrhages may occur. One patient stated that for eighteen years she had had from time to time profuse hemorrhages. In several cases the initial hemorrhage of a cupful to a "pint," occurred ten years previously. They had taken medicine, kept on with their work, and only for the few weeks or months previous to the clinic visit had they noticed any change in their health.

The initial lesion was in the right lung in the majority of cases. By "right upper" and "left upper" are meant the upper part of the lungs from about the third rib in front and from the middle of the scapula behind. That takes in portions of both the upper and lower lobes. It seems to me difficult at times to state positively, when a large portion of one lung is diseased, whether or not the harsh respiratory murmur heard over the other lung is entirely due to compensatory emphysema or due to tuberculous infiltration. Both lungs were involved in 13 cases, and in 5 cases an apex and an upper were involved.

We were surprised to find among complications only three cases of pneumothorax. It is likely that some might have been overlooked.

The best index of the hopelessness of the work, as far as the treatment is concerned, is shown by the stage of the disease when the cases presented themselves for examination. The classification used is the one adopted by the National Association for the Study and Prevention of Tuberculosis. The apparently acute cases are really advanced, but they have been here separately classified. It is seen that only 12 of the 185 cases were classed as incipient. Ninety-three were advanced, 74 were moderately advanced (possibly some of these could have been classed as third stage cases). A very few of these were able to follow instructions under the watchful care of a nurse and they showed marked improvement. It was sufficient to assure us that, had we the facilities for caring for our patients, many might have been markedly benefited and possibly a few might have recovered so that they could have gone to work again.

Very interesting is the history of exposure to the disease. In 42 cases there was a history of definite exposure to a member of the family. In some cases the exposure was as long ago as forty years. Whether the bacilli can live in the tissues in a viable but dormant state for that length of time is a question that it is difficult to answer positively, as direct proof would be impossible to obtain. Personally I believe that such is possible. Certainly the bacilli can remain for five, ten or fifteen years in a resting condition, why not forty? In 20 cases there was exposure that was conjugal, through a friend, or from some one associated at work. In many cases, particularly the lodging house habitués, although no definite history of exposure could be obtained, one felt that the chances of acquiring the disease by living and sleeping in such places were excellent. A number of men admitted that in the room where they slept there were from six to eighty men, the ventilation was almost nil, and there were, or had been, men with heavy coughs who spat up quantities of sputa. Those with advanced tuberculosis who were seen in the

clinic, stated that they were in the habit of spreading a newspaper on the floor to receive the spit. Surely there is no doubt that such houses and rooms are hotbeds of infection and many cases are contracted in them.

This brief résumé of the work of the first year leaves us in a very unsatisfied frame of mind. It is of no value to recite the difficulties under which the work has had to be done. Suffice it to say that one person has done everything. There is no nurse, no clerk, no assistant attached to the clinic. We hope soon to have some who will keep the records and do some of the routine work.

In this campaign there is so much that is needed, there is so much to be done, that it seems at times almost a hopeless task.

There must be education, education and still more education before we can hope to grapple successfully with this huge problem. In no two communities will the same plan of work be the most successful. We, in the middle West, have to contend with conditions so different from those in the eastern cities that our whole campaign must be newly planned. As yet we have scarcely won our spurs in the fight, so new to this part of the country is a really active antituberculosis campaign.

In an address not long before his death, Sir William Broadbent said: "In dealing with consumption there are two distinct objects to be kept in view—the relief and cure of those already afflicted, and the protection of the community generally from the disease. * * * Of the two objects, the treatment of early cases and the isolation of advanced cases, by far the most important in the interests of the public is the latter. The provision for these two objects again falls on different shoulders. Sanatoriums for the treatment of presumably curable cases are a legitimate object for charitable support. Hospitals for isolation purposes ought to be provided for by the health authorities. It is as much the duty of the bodies charged with the responsibility of guarding the public health to prevent the dissemination of tuberculosis in the air as to prevent the contamination of drinking water by the typhoid bacilli."

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NOTE.—The writer regrets that he will not be able to report next year. Since this paper was written he has been forced to resign his position in the Health Department. Many of the suggestions that he repeatedly urged on the Department he hopes to see carried out during the coming year under the new regime. It is confidently expected that our local society will have its own dispensary. This will materially aid the work.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF
JESSE S. MYER, M. D.

DIET IN TUBERCULOSIS.—White (*New York Med. Jl.*, Nov. 2, 1907).—With the constant advancement that is being made in dietetics, White believes that much can be done in the care of tuberculous patients. It must be approached from these standpoints by the profession. The first, attempting to determine the truth of specific action of any food stuffs in destroying the bacillus tuberculosis. Under this class usually come the use of cod liver oil, forced feeding of meat or vegetable diet—all of which seem to justify the conclusion, after careful study, that no specific articles of diet or methods of feeding have a specific action in the treatment. That nutrition should be improved and judiciously pushed to the utmost limitations seems to the writer a foredrawn conclusion. This is especially true since all patients with tuberculosis have impaired digestion and malnutrition, a condition which has probably existed some time before the bacillus tuberculosis could have gained a foothold in the system. A restricted diet becomes necessary for a time in these cases and has the function of not only furnishing rest for the digestive tract, but at the same time facilitates the elimination of toxines. The amount of fever, muscular exercise, mental conditions and other factors must have a bearing on the diet. Lastly the diet should be such as to reduce the autointoxication to a minimum and be free from the bacillus tuberculosis. These ends may be accomplished by keeping the alimentary tract in as healthy a condition as possible, and by observing the greatest vigilance in the choice of food ingested, milk deserving special care.

HEMORRHAGES IN BRIGHT'S DISEASE.—Riesmann (*Am. Jl. of the Med. Scs.*, Nov. 1907).—After a careful review of the literature and a report of several cases, the writer concludes that Bright's disease causes hemorrhages from the nose, uterus, lungs and stomach; hemorrhage into the brain, eye and ear; and also a more or less well marked hemorrhage diathesis. The diathesis is characterized by bleeding into the skin and mucous membranes.

The true cause of this hemorrhagic diathesis is unknown; but it is probably a toxin analogous to the hemorrhagius of snake venom. All other types of bleeding are due to arterial disease and hypertension. The prognosis in all cases of nephritic hemorrhage is unfavorable and generally hopeless when the hemorrhagic diathesis exists.

TRUE INTESTINAL DYSPEPSIA.—Einhorn (*Am. Jl. of the Med. Scs.*, Nov., 1907).—By the term "intestinal dyspepsia" the writer understands conditions in which the digestive function of the intestinal tract is disturbed. The test which has been employed to recognize this condition was introduced by Schmidt. Einhorn finds that the Schmidt test-diet presents some difficulties in that it is often necessary to wait several days for the stool from the test-diet. For this reason he has employed the bead test with great satisfaction. In the use of this test, however, one must not infer that because he finds a subsance in the beads undigested,

that there is no digestion whatsoever, as such substances may occur in the bowel, but rather that there is a considerable diminution.

Einhorn distinguishes two large groups of intestinal dyspepsia, namely, digestive disturbances which concern all those classes of food stuff, and disturbances affecting only certain classes. A number of cases of each group are detailed. Complete intestinal dyspepsia may exist for a long time without necessarily endangering the life of the patient.

In the second class, disturbances in the carbohydrate digestion seem to be most frequent, and those of meat digestion rarest. Therapeutically the author suggests in the complete intestinal digestion a liquid or semi-solid diet and the administration of pancreon and similar medicaments. In the partial type, the amount of that variety of food which is not digested should be limited. Tatadiastose in five grain doses is valuable in the amylaceous dyspepsia while pancreon gives good results in the proteid and fat digestion.

The Opsonic Index in Erysipelas and its Relation to Treatment of Inoculation of Killed Streptococci.—Schorer (*Am. Jl. of the Med. Scs.*, Nov., 1907).—This is a report of the treatment of patients suffering with erysipelas at the Bellevue Hospital, from January 1st to February 15th, 1907. Altogether the opsonic index was studied in 36 patients and 37 patients received one or more injections of killed streptococci. The organisms used for the determination of the index and for injection were a mixture of four cultures of streptococci isolated from four patients suffering with erysipelas. It was found that not much reliance could be placed in the determination of the opsonic index. The method usually employed and recommended by Wright is not sufficiently accurate. The great variation of phagocytic power, when normal serum is used, makes the determination of the opsonic index of a single serum of little value. To obviate the individual variation, pooled (mixtures of several) normal sera and composite charts of comparable cases were employed when possible. It was found that in patients not receiving injections of killed streptococci the average maximum index was reached in the third day and then fell again. Injections of 25 million killed cocci causes an increase in index on the following day, while larger doses give the rise later and may first cause a fall of the index. In individual cases there is no constant change of index corresponding to relapse, migration, desquamation or recovery. Injections of killed erysipelas streptococci warrant no conclusion as regards temperature and delirium.

Recurrence and migration are not prevented by vaccines, but the average duration of the disease in patients receiving injections of killed streptococci is 6.8 days, as compared with 9.4 days when treated with usual remedies for a similar series treated in 1905. It is indicated, accordingly, that the vaccine injections may be of some value in erysipelas.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF
CARL FISCH, M. D.

Comparative Investigations About the Significance of the Respiratory Organs and of the Digestive Tract for Infection with Tuberculosis (Experiments on Guinea Pigs).—R. Pfeiffer and E.

Friedberger (*Deutsch. med. Woch.*, 1907, No. 39, P. 1577).—It is surprising to observe the contradiction between the vast bulk of experimental work done on the intestinal origin of pulmonary tuberculosis, after Behring's pronunciamentos some years ago, and the experience that pathological observations in human tuberculosis have yielded; the first resulted in giving up the source by inhalation, the other confirmed it. This difference in opinions seems to have passed unnoticed, and even in authoritative circles, like the last Congress in Paris, the tendency has predominated to assume a primary entrance of tubercle bacilli through the digestive tract as the main source of phthisis. Are clinical and pathologic findings unreliable? A search for the explanation of this contradiction has not been made for reasons unknown, or because of prejudice. Men with level heads have been warning against this change of opinion, without giving conclusive evidence of an experimental character. The fundamental investigations of Pfeiffer and Friedberger have thrown a light on the cause of this contradiction which illuminates the situation and puts the inhalation theory in its old place. Stimulated by the valuable work of Fluegge, which was absolutely confirmed by Findel, establishing the fact that under natural conditions the tuberculosis infection occurs through a limited number of tubercle bacilli; that under natural conditions, such a vast number is never introduced as is used in all experiments so far made, except in those inhalation tests made by Cornet; and that comparisons between infections caused by these vast masses of tubercle bacilli and those occurring under the ordinary conditions of life are entirely out of the question. In guinea pigs a number of bacilli, less than 400, will not cause tuberculosis, while a larger number produces it. The establishment of this fact shows the relatively small quantity necessary to infect a human being, although of course exact figures cannot be given. The guinea pig, however, is the most susceptible mammal known to us. Acting on this new addition to our knowledge, the authors imitated the human infection in an original and exceedingly logical way in exposing guinea pigs to the spray of a bacillary emulsion containing not more than 35,000 bacilli in one cc. The amount of the emulsion used was 0.1 cc. and the spraying continued for ten minutes. It was not done in a closed receptacle, but in the open and under different weather conditions. The distance of the face of the animal (only that part was exposed) from the nozzle of the spray was 15-20 c. The computation is that at the best the guinea pigs would inhale only a part of the 3,000 or 4,000 bacilli, so that by the single one only a small number could be inhaled. At the same time other animals were injected through the stomach tube with 9 cc. of the emulsion containing 35,000 bacilli in 1 cc.

The result of the first series is, shortly, this; of the 29 animals, after 50 days, 22 showed pulmonary tuberculosis. The tubercles were isolated, very large and mostly caseous. In almost all of them the bronchial glands were greatly enlarged and caseous. Only once an isolated tuberculosis of the bronchial glands with the lungs intact was seen. In 15 cases a dissemination of the process had taken place and hyaline miliary tubercles were found in the spleen and liver. In not a single case could there be discovered a disease of the mesenteric glands. The autopsy findings demonstrated conclusively that the dispersed bacilli had been inhaled with the inspired air and had passed directly into the lungs. In the animals fed with 9 cc. of the emulsion about three millions of bacilli were ingested, a quantity at least one thousand times greater than the quantity taken by inhalation. Twenty-eight animals were treated. After fifty days, four of these showed pulmonary tuberculosis, the character of the lesion in

the lungs in three of them was such that simultaneous respiratory and intestinal infection must be assumed. In only one case were the pulmonary tubercles miliary and hyaline; this was the only one in which the intestinal source of the lung lesions could be established. Excluding three cases which died from intercurrent diseases a short time after the ingestion of the virus, 21 animals remained which appeared absolutely intact and were perfectly free from tuberculosis. The conclusions to be drawn from these investigations are so obvious that every reader will make them. Pfeiffer's publication is the most important contribution to our knowledge of tuberculosis that has been offered since the last lecture delivered by Koch in England. The close relation of the results obtained by Pfeiffer with the statements made by Koch concerning the remoteness of the danger to man from bovine bacilli finds a beautiful, lucid and authoritative confirmation in Pfeiffer's and Friedberger's work. The human bacillus is the object against which we must fight, not the bovine.

About the Presence of Spirochaete in Pseudoleukemic Hyperplasia of Lymphatic Glands.—Proescher and White (*Muench. Med. Woch.*, 1907, No. 38.)

Spirochaetes in Acute Lymphatic Leukaemia and in Chronic Benign Lymphomatosis (Hodgkin's Disease).—Proescher and White (*Jl. Amer. Med. Assn.*, 1907, Sept. 28. See also *Journ. Am. Med. Assn.*, Aug. 31, 1907.)

The three communications by Proescher and White have followed each other in quick succession. They concern the finding of a spirochaete in tissue of several lymphatic processes, cases of Hodgkin's disease and in acute lymphatic leukaemia. While in the first two cases of Hodgkin's disease the material was fixed in formalin, the two last ones, one of Hodgkin's and one of acute lymphatic leukaemia, could be investigated only during life by puncturing the glands. In the two first cases the Levaditi method and the staining with Giemsa solution showed the presence of numerous spirochaetes in the hyperplastic glands. While at first the character of these spirochaetes was taken as similar to that of spir. pallida, the material from the third and fourth cases showed them to be 20 m. long with wide turns and pointed ends. This would at once exclude the pallida. The clinical character of a number of lymphatic hyperplasias has for a long time suggested an infectious origin. All attempts to find a causative agent have been fruitless, and with our late experience in the case of syphilis the method used by Schaudinn and Levaditi were applied by the authors to a similar investigation of general lymphatic hyperplasias. That in four cases, widely different in their clinical and even pathologic character, the same organism was found in the same relation to the pathologic tissue, as the organism of lues to luetic lesions, is a point that excites immense interest, the more so as spirochaetic diseases in animals have become more and more numerous in the literature of the last year. So-called lymphosarcoma and lymphatic and other leukaemias, have been the object of speculation of many investigators. Many of them were compelled by their studies to assume a parasitic etiology. Loewit has spent a part of his life in the characterization of a parasite residing in the leucocytes and their nuclei of leukaemic blood. His interpretations have met with universal contradiction. That the pathologic insight into the nature of leukaemia is distinctly none is shown by the yearly changing interpretation of the character of the lesions, some considering it as the expression of a malignant metastatic process starting from the hematopoietic tissues,

others only in an inexplicable change of the reproductive quality of the normal function of these tissues. It is yet too early, after these few observations of the authors, to accept them as explanatory of obscure lymphatic hyperplasias; still, their occurrence in conditions etiologically as yet absolutely obscure, but obtaining only for a definite type of tissue, is suggestive and calls for at least a wide extension of the observations to a great number of such conditions. That the present classification of lymphatic hyperplasias is not essentially the expression of the genetic independence of the different ones from each other, is shown by the clear presentation of this question in the paper by McCallum, reviewed below.

On the Pathological Anatomy of Lymphosarcoma and Its Status With Relation to Hodgkin's Disease.—McCallum (*Bull. Johns Hopkins Hospital,* September, 1907).—This paper is so full of details and special points that it is impossible to review it adequately without republishing the whole paper. Not only the statement of the relation of lymphosarcoma to the changes in Hodgkin's disease is in the foreground of his discussion, but the evidence resulting from his study of the pathology of lymphatic and other hematopoietic tissues make it possible to arrive at clear and definite conceptions. He has made a splendid beginning, which may be accepted as an indication of the direction of future work. Only one point may be reproduced here, the classification that, in his opinion, for the present, is the best, and the one that allows of a universal definite understanding of the character of pathologic changes dealt with in the single case. It is a somewhat modified copy of the classification by Sternberg that can be found in Lubarsch and Ostertag's Ergebnisse.

A. Primary diseases of the lymphatic and hematopoetic apparatus. Local limited homologous (hyperplastic) tissue growth.

a. With discharge of the cellular elements into the blood and homologous change of the tissue of the lymphatic and hematopoietic apparatus.

1. Lymphatic apparatus—lymphocytes in the blood. Lymphocytes—Leukaemia.

2. Myeloid tissue—Myelocytes in blood. Mixed-celled leukaemia.

c. With slight or no discharge of cellular elements into the blood.

3. Of all lymphatic tissue in a diffuse way. Pseudoleukaemia.

4. Of the lymphatic tissue of the bone marrow in the form of a tumor—Myeloid myeloma.

B. Atypical growths invading the neighborhood with heterotypic new growths.

a. With discharge of cellular elements into the blood.

6. Of the lymphatic tissue (discharge of ungranulated pathological cells). Leucosarcomatosis or chloro-leucosarcomatosis.

7. Of myeloid tissue (discharge of granular pathologic cells). Chloro-myelosarcomatosis.

b. Without discharge of cellular elements into the blood.

8. Of the lymphatic tissue. Lympho-sarcomatosis.

Ueber die Cultur der Gonococcen.—Nakas Abe (*Centralbl. f. Bacteriol.,* Orig. Vol. 44, H. 7).—A reliable and easily prepared medium for the cultivation of the gonococcus has been worked out by Nakas Abe. It is preferable to the media of Wassermann, Thalman, etc., and does away with the uncertainty of success in preparing the media. The

growth of gonococci on Abe's medium is rapid, and the life of the cultures is more prolonged than on other media.

500 g. of fat-free meat are ground or hashed and mixed with 1000 g. of water. After 18 to 24 hours in the ice box the mixture is filtered through paper and then through a Chamberland bougie into sterile containers. This fluid can be kept for a moderate time in good condition. For use it can be mixed with fluid or solid pepton media in the proportion of 5 of the latter and 1 to 2 (better 2) of the former. The liquefied agar must be brought down to a temperature not higher than 45° to 50° C. and the meat extract should have the same temperature. The preparation is easily made and the material obtainable at any time and everywhere. The reviewer can give testimony to the facility with which gonococci can be grown on this medium.

DIAGNOSIS.

IN CHARGE OF
ALBERT E. TAUSSIG, M. D.

THE PRACTICAL VALUE OF THE EXAMINATION FOR THE SPIROCHAETE PALLIDA.—Arning and Klein (*Deutsch. med. Wochenschr.*, No. 37, 1907). —Improved methods make the staining of the spirochaete pallida in smears comparatively simple so that it can be done as a routine measure for diagnosis. The writers recommend the Preiss modification of Giemsa's stain which in their hands has proven very satisfactory. In 112 cases of chancre on the male genitals the spirochaete was found in all but 4 cases and in 2 of the latter the ulcers had been treated locally with mercury. In 14 chancres on the female genitals the microorganism was found in every case. Syphilitic plaques and patches were examined for the spirochaete 179 times with only 10 failures, while in 17 cases of congenital syphilis the microorganism was found every time. It was found 7 times out of 32 in cases that were clinically uncertain and each time the subsequent course of the disease confirmed the microscopic findings. In 93 cases of soft chancre the spirochaete was found only twice and in these there was apparently a double infection. In the other 91 cases a prolonged search failed to demonstrate the presence of the microorganism. The results are quite as good as those obtained in the routine search for tubercle bacilli in the sputum and indicate that the demonstration of the spirochaete pallida in scrapings from suspected syphilitic lesions has a distinct practical value for diagnosis.

SCARLATINA AND DUKE'S DISEASE.—Cotton (*Jl. A. M. A.*, Oct. 26, 1907).—To the three exanthems, scarlet fever, measles and German measles, a fourth must be added, namely Duke's disease. It is apparently less contagious than measles, probably as much so as scarlatina, with a period of transmissibility of from one to three weeks. Prodromata may be wanting so that the first manifestation of the disease is the rash. Sometimes, however, a mild continuous fever precedes the rash, and occasionally there are catarrhal affections of the respiratory tract suggesting measles. The eruption almost invariably appears first on the face, rarely on the neck, and spreads rapidly downward, involving the trunk and portions of the extremities in a few hours. It does not seek the flexures and is usually pronounced over areas irritated by clothing or decubital pressure. Occasionally fine points first appear which quickly blend in a

general hyperæmia, with rarely small patches of normal skin sharply defined by irregular margins. The marked oronasal pallor of scarlet fever is not in evidence. The color of the rash is very suggestive of scarlatina, and fades rapidly after two or three days without stain, such as is observed in measles and often in rubella. Itching is absent, nor does the skin feel hot to the touch, as in scarlet fever. Desquamation usually, but not always, follows the disappearance of the exanthem. Its character is fine and branny, rather than in shreds and patches, as in scarlet fever. The febrile movement, usually marked, subsides rapidly with the eruption, rarely exceeding two or three days. The tongue, except for occasional coating, is negative, as also is the throat, save occasionally for a mild hyperæmia; the pulse shows no acceleration out of proportion to the febrile movement. Usually the postcervical and occipital lymph modes are palpable early in the attack, but frequently show no swelling whatever. No massive enlargements nor softening have been observed in uncomplicated cases. As a rule, no sequelæ occur, and rarely complications, the course being usually mild and uneventful. It is distinguished from scarlet fever by: (1) Long period of incubation; (2) absence of initial vomiting; (3) moderate fever of brief duration; (4) normal ratio of pulse to temperature; (5) absence of characteristic scarlatinal tongue; (6) the absence of desquamation or, if present, its fine character; (7) the freedom from sequelæ; (8) usually the absence of leucocytosis. When one or more cases of apparent mild scarlet fever occur in a family giving a clear history of former attacks of scarlet fever, Duke's disease may be suspected.

Irregularity of the Pulse in Diphtheria.—Peters (*Lancet,* Sept. 14, 1907).—The writer holds that little importance should be attached to the irregular pulse often observed in children during diphtheria. Children during the early years of life, especially the fourth and fifth years, commonly exhibit this symptom in any febrile disturbance and often in apparent health. If actual myocarditis is present an irregular pulse is of course of the gravest significance, but the irregularity itself does not justify the assumption of a degenerated heart muscle. In most diphtheria cases with cardiac irregularity, the latter continues for some time after apparent recovery and the children are kept in bed week after week when they would do much better out of doors, especially in view of the resulting anemia. On the other hand a true myocarditis, if overlooked, may be a serious matter. A careful examination of the circulatory system as a whole is essential.

THERAPEUTICS.

IN CHARGE OF
William Engelbach, M. D.

Therapeutics of Fibrolysin.—Pope (*British Medical Journal,* June 22d, 1907).—Pope recorded a case of locomotor ataxia treated by intramuscular injections of fibrolysin, which was followed by much improvement and a return of the knee jerks. The patient was 32 years old, and, on coming under treatment, he was a very typical case. He presented areas of paraesthesia and impairment of special senses, was very ataxic, had difficulty in micturition, and some hemiatrophy of facial and lingual muscles. He had Argyll-Robertson pupils, absence of knee jerks, and

Rombergism. Treatment was begun on January 2d, 1907, by an intramuscular injection of 2.3 c.cm. of fibrolysin. This was repeated on alternate days for nineteen times; at the end of which period there was improvement in standing and walking, but much inco-ordination persisted. After two more injections the knee jerks had returned. When twenty-four injections had been given in all, the treatment ceased; but two months later the patient was still able to walk about with the aid of two sticks, the knee jerks were retained, and there were no shooting pains—but the pupil reaction was unchanged. He recommended a further trial of this remedy in tabes. Further experiences with the same drug are recorded by Hastings. Some months after an attack of typhoid fever in 1889, a female, aged 46, began to suffer from an indurated patch on the calf of her left leg. This ulcerated and healed, but numerous other ulcers followed, with increasing induration. The process lasted for years, so that in November, 1906, her condition was as follows: The lower half of her leg was firm, smooth, scarred and contracted. In the center of the indurated area posteriorly there was an ulcer of the size of a crown piece. A smaller ulcer was situated below and in front of it. On the anterior and inner aspect of the limb there was a hard fibrous prominence, about the size of half a cherry. A half-ampulla of fibrolysin was injected on February 12th, as treatment had not effected any improvement. This injection was repeated on February 15th, and for the next five weeks one ampulla was injected twice weekly into the limb, in various situations. The injections were followed by marked local reaction. After the second, all pain ceased, and the leg seemed softer than before; the ulcers also looked healthier. The nodule in front of the leg diminished in size. As the injections were persisted in, the smaller ulcer entirely healed; the larger one became as small as a shilling, and the fibrous nodule practically disappeared. The greatest relief experienced by the patient was the cessation of the pain. Hastings states that thiosinamine (fibrolysin) succeeds best when the fibrosis has existed for some considerable time. In subacute or barely completed pathological conditions, it is contra-indicated, as it is liable to reawaken the inflammatory process. The theory of its action is that its injection is followed by a hyper-leucocytosis, and it is thought that during this period a destruction and absorption of nodules and of cicatricial tissue may occur. This writer also refers to a case of keloid in which he employed thiosinamine injections, but the only effect was a temporary softening of the edges of the keloid patch. On the other hand, he states that the milder varieties of Dupuytren's contraction benefit from the treatment, as also fibrous stenosis of the oesophagus and pylorus, but it is of little value in urethral strictures.

Experimental Basis of Iron Therapy.—Laspeyres (*Medizinische Klinik,* May 26, 1907; Ref. *Progress of Medicine,* August, 1907) reviews the excellent work that has been done in studying the behavior of iron in the animal body. Beginning with the results in plants, by first withholding iron from their nourishment, with the production of pale foliage, and the subsequent addition of iron with recovery of the normal green color, he notes that similar good results in chlorosis, through the use of inorganic salts of iron, are attested by numberless practitioners. In chlorosis, however, there is not simply a deficiency of iron in the food, as in the plant experiments; for with most chlorotic girls the food is as rich in iron as usual, nevertheless the administration of inorganic iron is followed by prompt increase in color of the blood and recovery. Kobert having shown that iron injected subcutaneously or intravenously caused acute poisoning, Bunge

was led in 1884 to the opinion that medicinal inorganic iron is not absorbed from the digestive canal, but that its action is protective to the food iron, in that by uniting with hydrogen sulphid in the intestine it saves the food iron from similar combination and leaves it free for absorption. The latter view has been dispelled by the fact that hydrogen sulphid generally does not occur in the small intestine, but is first formed in the large bowel. It is noted that the amount of iron differs much in the common foods; green vegetables, meat and yolk of eggs contain much, while milk and rice are much poorer. The striking discrepancy between the needs of the growing young animal and the deficient amount of iron in the milk was shown by Bunge to be compensated by the fact that mammals (dogs, cats and rabbits) receive at birth a large amount of iron in their organism, which, being gradually used during lactation, reaches its minimum with the close of that period. The interesting investigations by Krasnorsky in the Czerny Kinderklinik seem to show that, in respect to human milk, the small amount of iron is compensated for by its easy assimilability, 80 per cent being absorbed and 75 per cent retained. Goat's milk is inferior in this respect. The iron compounds of spinach and yolk of egg do not differ much from each other in their absorption and retention, but are considerably below human milk in this regard. It is impracticable to estimate how much iron is absorbed, by comparing the amount taken with that found in the urine and feces, as the latter may contain unabsorbed iron, while the urine contains only traces of the metal in organic combination not responding to the ordinary tests. It was shown by Gottlieb, in 1891, that iron-sodium oxytartrate injected subcutaneously, in dogs upon a diet poor in iron, was mostly eliminated with the feces, deposition of iron having occurred in the liver with gradual elimination during nearly three weeks after injection. The small intestine contained much less than the large, which indicates that the latter is the chief organ of elimination for iron, which the observations of Fritz Voit upon a dog with isolated small intestine also confirm. Regarding further the question of absorption of iron given by the stomach, the evidence is given of Honigmann's observations on a patient with a fistula in the lower part of the ileum, in whom, of 0.4166 gm. of iron contained in 20 cc. of a solution of ferrum citricum oxyd., 81.33 per cent had disappeared down to the point of the fistula. During the past ten years further study has been aided by microchemical tests of iron in the tissues, by means of ammonium sulphid or potassium ferrocyanid with hydrochloric acid. These reagents detect inorganic iron compounds and the salt-like combinations of iron with albumin. Hemoglobin and hematin generally do not respond, while hematogen and ferration do so only after prolonged action; so that a failure of the reaction does not permit the conclusion that all forms of iron are absent. Employing this method Hochhaus and Quincke, experimenting with mice, ascertained the presence of iron in the epithelium of the duodenum up to two days after administration. The reaction failed in the small intestine, but was constantly present in the upper part of the large, and here almost exclusively in the submucosa. The latter finding obtains also in normal mice, but less marked than when iron is given. They concluded that a soluble iron albuminate penetrates the epithelial cells of the duodenum exclusively and is here at once precipitated, to extend later into the deeper tissues and to the mesenteric glands. The findings in the large amounts, and Cloetta by employing an iron-nuclein compound, in epithelium, and especially as continued feeding with iron increases the reaction, as also after subcutaneous administration the amount of iron in

the large intestine increases. The conclusion that iron is absorbed from the duodenum exclusively may be questioned, since Macallum, by giving large amounts and Cloetta, by employing an iron-nuclein compound, in which the iron seems to be more firmly combined and more resistant to the solvent influence of the duuodenum, found the iron reaction to occur also in the epithelium of the small intestine, while Tartakowski showed it also in the epithelium of the stomach. Abderhalden extended the experiments of Hochhaus and Quincke, by comparing animals fed with a diet poor in iron with others in which iron preparations were added to the same diet, and with animals upon a normal diet. He found the iron test negative in the animals upon the diet poor in iron, while it showed positive as soon as either organic or inorganic iron preparations were added, as also in those normally fed. He obtained the iron reaction in the duodenum, in the solitary glands and in Peyer's patches of the small intestine, the cecum, the colon, the mesenteric glands, slightly in the kidneys, markedly in the liver, spleen and bone marrow. Accordingly, the absorption of inorganic forms of iron must be admitted; and it is of interest to note that the iron of the normal diet takes the same route of absorption, is deposited in the same organs, is eliminated at the same place, and is recognizable by the same test, as are the inorganic forms. Both are deposited, as loosely combined iron, chiefly in spleen and liver, and are changed as needed into the firm combinations of blood iron or tissue iron. The above results fail to solve the question of the nature of chlorosis or the action of iron in that condition, which does not depend upon lack of iron in the diet. The most commonly accepted theory of Von Noorden, that chlorosis is caused by a functional weakness of the blood-forming organs, probably due to failure of some internal secretion that normally stimulates them, gives basis for his explanation of the action of medicinal iron, which he believes to exercise a strong stimulation upon the blood-forming cells of the bone marrow, thereby inciting new formation of hemoglobin and also red blood cells. Abderhalden raises the question whether the nature of chlorosis does not consist in the cells having lost in part, their capability of splitting iron off from its complex organic combinations in the food, or of bringing it into proper form for forming hematin. This would permit the conclusion that medicinal forms provide the system with iron in a form more readily absorbed and more easily utilized in hemoglobin formation. For the present our view of the disease must rest upon theory; but with the experimental facts remains the fact of success in the iron therapy of chlorosis. And the author believes that we have no occasion to depart from the teaching of Niemeyer in favor of the use of inorganic iron salts. He deprecates the many commercial preparations and welcomes the increasing favor shown toward the use of reduced iron, and the carbonate as given in the time-honored Blaud's pill.

SURGERY.

IN CHARGE OF
MALVERN B. CLOPTON, M. D.

RECENT RESEARCH IN CANCER.—Copeman (*Practitioner,* Aug., 1907.)—It is believed that cancer is not, in the ordinary sense, an infection, there being no evidence that its onset and continued growth is due to any microorganism. That cancer constitutes the local manifestation of perverted metabolism is indicated by the failure of the normal HCl secreting

function of the stomach, even when the growths are situated away from the viscera, and to this absence of HCl may be attributed the profound nutritional disturbances or cachexia, as with HCl absent the bile and succus entericus are unable to perform their share of digestion. In some instances temporary amelioration of symptoms, with or without retardation of growth, has been obtained by certain forms of treatment. With the object of lowering the increased alkalinity of the blood and bringing about an increased acid secretion of the stomach, Metchnikoff's lactic acid milk, the living acid-producing bacilli in which are capable of gradually supplanting the pre-existing bacterial flora of the intestine, reduces the alkalinity of the feces, which gradually tend to become neutral or even faintly acid. This "bacterial junket" is highly nutritive and easily digested and may prove the only food capable of assimilation in advanced stomach cancer. The author believes that operative measures are the only ones at present to rely upon, but inasmuch as there is occasionally a spontaneous cure, there is reasonable hope that continued investigation and research may afford accurate knowledge of the conditions favorable to such spontaneous cures, and, further, that the indications thus afforded may eventuate in the discovery of a method specific for this disease.

Surgery of the Thoracic Duct.—De Forest (*Annals of Surgery*, Nov., 1907).—A case is reported which was operated for cervical adenitis of the right side, the dissection extending to within an inch above the clavicle. The wound was closed and the patient did well for four days when, on dressing the wound, the suture line was found "melted away." Two days later the edema of the adjacent parts led to an opening of the wound and a pint of thick, curdy material came away, and later chyle discharged, continuing abundantly for the next five days, the flow being so free as to require frequent changing of the dressings. There was no undue hunger, but the patient became weaker. On the eleventh day the flow had practically stopped, when the wound was tightly packed with iodoform gauze and from that time healing was rapid and convalescence uneventful.

In the literature thirty-one cases of injury to the duct are reported, and all but two recovered. The thoracic duct probably always has collateral branches which are able in case of accident to perform the function of the main duct. Sudden closure of the duct in man has had as its result only transitory disturbance of nutrition of the body. Chylorrhea occurring after a wound of the duct, must, if possible, be immediately controlled, and may be treated as a wounded blood vessel. Suture is the ideal method, if it is technically possible, but as the chyle does not coagulate, and perfect closure is usually impossible, ligature will be the next best method, and, if this is not available, suture of the tissues over the wounded vessel, application of clamps to the duct or, in emergency, or as a last resort, temponading should be applied.

A New Operation for Femoral Hernia.—Moschcowitz (*N. Y. State J. of Med.*, Oct., 1907).—Believing that most of the methods of operation for femoral hernia at times fall short of accomplishing a cure, the following operation is presented, which, while original with the author, corresponds with the Ruggi method for femoral combined with Bassini's method for inguinal hernia, and is also similar to a method described by Silver. The incision is made as for inguinal hernia above Poupart's ligament, but in certain cases is extended vertically down over the femoral sac; the aponeurosis of the external oblique and transversalis fascia is divided and the sac exposed at its neck beneath Poupart's. It is tied off at the

peritoneal cavity, which by this method is possible, but by most other methods cannot be done even when the strongest traction is used to draw the sac down. Closure of the internal femoral ring is done by passing a curved needle with chromic gut between Cowper's ligament and the periosteum of the pubic bone and drawing Poupart's ligament over the femoral ring, which can usually be done with two or three sutures; that most external goes near to the external iliac vein, the most internal sutures include Gimbernath's ligament. With the spermatic cord in place, four or five sutures unite the internal oblique and transversalis with Poupart's ligament, the cord emerging below. The external oblique is closed and then the skin. This is a preliminary report on the method, as only twenty-nine cases have been operated.

General Peritonitis Following Appendicitis.—Fowler (*N. Y. State J. of Med.*, Oct., 1907).—The report is based on 145 consecutive cases of diffuse peritonitis. Operation was not refused those almost moribund cases, for occasionally miraculous recoveries ensue. Six cases died in the course of the operation. Cure in those cases surviving the operation was 62 per cent. Twenty-eight cases died in the first twenty-four hours, 16 died in the second twenty-four hours. The incision was small, the appendix removed, after packing off with wet sponges wrung out of 1-3000 bichloride. The immediate neighborhood is flushed with a warm solution of equal parts of peroxide of hydrogen and bicarbonate of soda, followed by salt solution. In the first one hundred cases peroxide irrigation was used for pus collections in the pelvis, and elsewhere in the cavity, but in the last forty-five cases peroxide had not been used above the umbiliucs except for separate collections of pus. The whole abdominal cavity was completely flushed with salt solution, introduced through a Chamberlain douche nozzle. The average time of operation was twenty minutes. Whenever necrotic abscess cavities existed these were drained with gauze wicks brought through the wound, in addition to whatever form of pelvic drain was used. In 116 cases glass or rubber tube drains with gauze wicks were introduced into the pelvis and this pelvic drain was made long enough to allow a separate bundle of gauze dressing to be attached to it, and allow the changing of these dressings independent of the dressing of the wound. Six cases were drained through the vagina. Three cases were closed without drainage and all recovered. Those cases which can be closed must have no necrotic areas, and there must be no blistering, desquamation, swelling or infiltration of the serosa. Directly after operation the patient is placed in the elevated head and trunk position; those with much shock cannot be raised as high as the others for the first few hours. Saline enemata of a pint or quart are given every three or four hours. The average stay in bed of cases recovering was twenty-two days.

Functions of the Pylorus and Stoma After Gastro-Enterostomy.—Diggett and Maury (*An. of Surgery*, Oct., 1907).—These studies were on dogs. The pyloric and stoma functions were investigated from three standpoints: (1) By studying the course taken by solid particles tied to a string; (2) by feeding fat and studying the condition of the lacteals an hour later; (3) by performing gastroenterostomy near to the ileocecal valve and making observations upon the weight of the animal. In the only case mentioned in which the first experiment was successful the string emerged from the stoma, went up through the duodenum to the pyloris, which it passed through in the reverse direction

into the stomach, making the trip twice. Another dog who had worn the string for two days was given a large fat meal. The gastroenterostomy was near the ileocecal valve. The string had passed through the pyloris and well down into the small gut, nearly to the site of the gastroenterostomy. The lymphatics of the entire intestine were engorged up to the point where the meat was tied to the string, but not below this, although somewhat lower down in the small gut was the enterostomy. This was considered as showing that fats do not pass through the stoma. The experiments based on the weight of the dogs were not very successful.

ORTHOPEDIC SURGERY.

IN CHARGE OF
NATHANIEL ALLISON, M. D.

ON THE USE OF MASSAGE AND MOVEMENT IN THE TREATMENT OF FRACTURES.—Cathcart (*Glasgow Med. Jour.*, July, 1907).—The author directs attention to the massage and movement method of treating fractures, and shows how almost every fracture in the body can have this method applied to it with much benefit to the patient. He arrives at the following conclusions after a study of the literature and reviewing his personal experience: Absolute immobility of the broken ends of bone is not essential to bony union. The ribs unite in spite of the movements of respiration, and wide experience has shown that the slight amount of movement, necessarily involved in the daily massage of a fractured limb, and in the daily active and passive movements for a few minutes, at least, of the adjacent joints, seems to hasten rather than hinder the formation and the solidification of the callus. Extravasated blood in joints and among muscles and synovial sheaths leads to adhesions in its neighborhood, as if it were in itself a source of irritation, apart from the irritation due to bruising and laceration of these soft parts which accompanies fracture. Massage in the form of stroking and gentle kneading and with it occasional movements, are in several ways beneficial in the treatment of fracture. These measures not only aid the actual union of the bones, but help in the absorption of effused blood and serum, restrain if not prevent the formation of adhesions among the soft parts, and maintain the nutrition of the muscles. They, therefore, simultaneously hasten union and prepare the limb to return to functional use, almost as soon as the bones are united. Splints and other retentive apparatus, including extension, are required more to prevent mal-union than non-union, and hence are called for, especially where the weight of the limb or muscular action are likely to lead to bad position during the healing. Anyone sufficiently careful and gentle in handling an injured and delicate part can do this massage and manipulation, the objects of which are in recent fracture to diminish the swelling, allay muscular spasm and soothe pain, in later stages to stimulate circulation, disperse accumulations of blood and serum and maintain nutrition of muscles, nerves and soft parts. The patient must not be caused pain. The author then gives directions for the treatment of special fractures and calls attention to the fact that splints and extension must be employed meanwhile to supply the rest and fixation necessary. In certain fractures, as that of the clavicle, none of the appliances so far used prevent a certain amount of overriding; a good functional result is here obtained by the use of a

simple sling with the arm firmly supported at the side. Simplification of apparatus is a desirable thing, and the writer is of the opinion that much can be accomplished in this direction.

Operative Treatment of Fractures Involving the Elbow Joint.—Flint (*Med. Record,* Sept. 21, 1907).—The article contains a report on ten cases of elbow joint fracture which were treated by operative methods. These fractures were of several varieties and the results obtained were encouraging. The writer says that operative interference should never be made when there is doubt as to its advisability; it is best to wait where there is any uncertainty. He describes in detail the operative procedure where the fracture is of the olecranon, the external or internal condyle, supra-condylar, comminuted and separation of the epiphyses. Conservatism gives the best results in childhood, and it is important to remember that the operation is only half the work; it must be supplemented with very careful and prolonged treatment, on which depends success or failure. Passive movements which should not be carried beyond the point of pain, massage and the early removal of fixing apparatus should be the aim of treatment after operation.

The Treatment of Tubercular Abscesses.—Young (*Amer. Jour. Ortho. Surg.,* July, 1907).—As a result of 26 reported examinations of tuberculous abscesses, Young has come to the following conclusions: (1) Tuberculous abscesses will frequently disappear under thorough protective treatment and will not require an incision. (2) Exploratory puncture of the joints should be made early, and of the abscess preceding any operation, for diagnostic purposes. (3) The method of operation should be decided on from the results of the laboratory examinations. (4) When the abscess is reported sterile it should be thoroughly incised, curetted and closed without drainage, under the most careful aseptic precautions. (5) When the abscess report shows large numbers of tubercle bacilli, the incision should be cauterized before the sac is incised, with thorough curettage, partial closure, and drainage for not over 48 hours, the strictest asepsis being maintained. (6) When the cultures show mixed infection, the abscesses should be incised, thoroughly curetted, washed with a formalin solution, partially closed aseptically, and drained for not over 48 hours. If the clinical symptoms and x ray show an accessible focus of disease this should be thoroughly removed at the same time the abscess is incised, by curettage, erasion, partial closure, and drainage for a short period. (7) Cultures should be taken from sinuses and if sterile the sinus should be treated by absolute, thorough and complete immobilization of the tuberculous area, with partial closure, and drainage for a short period. (8) If the cultures taken from the sinuses show tubercle bacilli the part should be thoroughly curetted, immobilized and treated with a saturated solution of methylene blue. (9) If the cultures show mixed infection of the sinuses they should be thoroughly curetted under strict aseptic precautions, the diseased part should be immobilized, and the general condition should be treated by serum therapy.

GENITO-URINARY SURGERY.

IN CHARGE OF
H. McC. Johnson.

Some Problems in the Treatment of Gonorrheal Spermocystitis.—Aronstam (*Internat. Jour. Surg.,* Aug., 1907).—The author

believes that spermocystitis is not so rare a complication of gonorrheal posterior urethritis as is estimated in some of our text-books, which give from 1.5 per cent to 3-5 per cent. He feels that if all cases of urethritis are examined with a view of ascertaining the condition of the vesicles, a much higher percentage of involvement will be found. The acute and subacute forms are discussed, and, referring to the treatment of the chronic form, the author reports excellent results from the use of full-sized medicated steel sounds, 26 to 30 French scale, passed three times weekly and left in position for 10 to 15 minutes, in conjunction with massage, suppositories, rectal irrigations, etc., as indicated. The medicinal lubricants used are preparations containing silver nitrate, peruvian balsam, ichthyol and adrenalin.

The Pathogenic Significance of Cheyne-Stokes Respiration in Nephritides.—Cumston (*Am. Jour. Urology,* Aug., 1907).—It may be assumed, with all safe probability, that Cheyne-Stokes respiration may arise during the progress of nephritis, although the renal permeability need not of necessity be disturbed, and, on the other hand, in other instances, where the impermeability is almost absolute, this phenomenon does not occur; while in all the cases personally observed, either lesions of generalized arteriosclerosis, or localized in the cerebral arteries, or cardiac lesions usually having an arterial origin, have always been noted. The author discusses Cheyne-Stokes respiration in its association with nephritides, with and without renal permeability, and cardiac and vascular lesions. To sum up, it may be said that between Cheyne-Stokes respiration and uremic poisoning there is only a relationship of coincidence; that between the former and lesions of the circulatory apparatus there is a necessary relationship, that which unites the effect with the cause. Periodical dyspnea is consequently the result of circulatory lesions, more particularly local disturbances in the brain; it indicates a condition of impediment of the respiratory centers, which react to the insufficient sanguineous excitation by a deviation of their functional activity. This pathogenic significance of periodical dyspnea during the progress of nephritides, a consequence of cerebral ischemia, is confirmed by the clinical observation of diseases other than the various nephritides, where this phenomenon is encountered; whether the periodical dyspnea appears in diseases of the heart, in diseases of the brain or meninges, in infections or intoxications, everywhere and in all we find this fundamental fact, namely, an insufficiency in the cerebral blood supply. The variable condition of renal permeability in cases presenting the Cheyne-Stokes phenomenon, the constant presence of arterial and cardioarterial lesions, the presence of this phenomenon in various affections, the variable action of digitalis and morphine, the absence of periodical dyspnea during the course of acute nephritides, appear to form a sufficient amount of proof allowing us to admit that the Cheyne-Stokes respiration is produced by factors other than renal toxemia alone, and that it is a symptom of cerebral arterial insufficiency and not of uremia. We have thus come to the conclusion that the Cheyne-Stokes respiration of nephritrides, which, for many years, has been considered an important symptom of uremia, should no longer be regarded as such, and from a more general viewpoint we believe that the symptomatologic ensemble of uremic poisoning itself is not quite as vast as various writers would lead one to believe.

A New Operation for Penile Hypospadias.—Bucknall (*The Lancet,* September 28, 1907).—The writer's operation consists in forming a urethra

from the skin of the penis and scrotum, and is performed as follows: The penis is drawn well up over the pubis and an incision is made on each side of the median line, one-eighth of an inch from and parallel to it, beginning on the glans and extending down on the under surface of the penis and on to the scrotum until the incisions on the scrotum, measured from the misplaced meatus, are equal in length to those on the penis, measured from the same point to their commencement on the glans. From the extremities of the two incisions others are made outward at right angles, each a quarter of an inch in length. These flaps are dissected up off the side of the penis and scrotum, respectively, and rolled outwards from the median line throughout their whole length. The flaps are held in the everted position and the penis flexed down on to the scrotum in the middle line about a transverse axis, passing through the misplaced meatus. The median strip of skin on the ventral aspect of the penis, and the raw areas flanking it, thus come to lie on the corresponding median strip and raw surfaces on the front of the scrotum. The penile strip of skin will form a roof for the new urethra and the scrotal strip will form its floor. The raw surfaces on each side, when properly sutured, will grow together, fixing the penis to the scrotum and closing in the lateral walls of the new urethral tube, so as to render it water-tight. In suturing the flaps the sutures are placed transversely and drawn taut over a small piece of rubber tubing, placed on either side to prevent puckering. In passing the needle on the inner side of the flaps, care must be taken not to enter the new urethra but still be close enough to exactly approximate its edges so as to prevent leakage. A small rubber catheter, with the eye cut off, is passed along the new urethra and pushed a short way down through the old meatus, so as to drain off the urine without soiling the new portion. The piece of catheter is removed on the fourth day, and the sutures on the fourteenth day, when the second operation may be performed, or postponed indefinitely, as desired. The second operation consists in dissecting up the penis and new urethra from the scrotum, lateral flaps derived from the scrotum being left on either side of the penis to close in the surface beneath it. Other flaps are formed on the scrotum by means of which the raw surface there is closed. If the lateral flanges used to unite the penis and scrotum project too freely, they can be trimmed off to improve the cosmetic result.

The Value of Palliative Operation for Cancer of the Bladder.—Cabot (*Am. Jour. of Urology*, September, 1907).—The author, after a consideration of the subject and the report of several cases, submits the following conclusions: 1. That palliative operation is of value in cancer of the bladder. 2. That in properly selected cases, operation will prolong comfortable existence very materially. 3. That suprapubic drainage of the bladder will relieve the symptoms and promote the comfort of patients for whom nothing more radical can be done. 4. That hemorrhage should not be allowed to continue unchecked unless efficient examination has conclusively shown that the cause cannot be removed by operation.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF
HUGO EHRENFEST, M. D.

Blastomycetes and Inflammations of the Female Genitalia.—Van der Velde (*Zentralbl. f. Gyn.*, No. 38, 1907).—This article contains

a summary of most interesting observations made by the author in a long and extended study of blastomycetes (saccharomycetes) in the etiology of various inflammatory processes occurring or originating in the female genitalia.

He succeeded in separating a number of species in pure culture. In experimenting on animals with such cultures he was able to establish, at least in some instances, as e. g., in cases of acute vulvitis and vaginitis, the etiologic relations existing between these fungi and the pathologic condition. Van der Velde demonstrated that the blastomycetes often accompany schizomycetes (bacteria), a mixed infection with the gonococcus apparently being very common, but in certain cases blastomycetes alone are found. He discovered them in cases of acute and also of chronic vulvitis and vaginitis, especially during pregnancy, in the mucoid contents of ovula Nabothi, in chronically inflamed, cystic Bartholinic glands, in two cases of old chronic sactosalpinx, in cystitis, etc. In cases of a somewhat prolonged labor they may quickly invade the amniotic fluid; in some cases of puerperal sepsis these blastomycetes were cultivated from blood obtained by venesection. In a case of multiple miliary abscesses in a uterus he detected the fungi in a pure culture in all the abscesses. Van der Velde saw a case of blastomycetes-peritonitis and he believes in a pure blastomycetes-sepsis.

The etiologic significance of the fungi for inflammatory processes, in which they are found, has been established by animal experimentation with a second and third generation cultivated on suitable media, as already mentioned, but also has been proved by a blastomycetic balanitis of husbands of women suffering from a blastomycetic vaginitis.

Of special interest are the author's investigations concerning the source of infection. It seems certain that the fungi are introduced by means of infected water used for douches. He repeatedly detected the same species of the fungus in the water used in a certain neighborhood. Boiling the water does not offer a safe protection on account of the fact that these blastomycetes may form very resistent spores. (It may be mentioned here that these investigations have been made in Holland, and it is possible that this infection, apparently so common in that country, for obvious reasons, may be rare or unknown in this country. Thus Van der Velde never found a case among women who used water of the Haarlem Water System both for bathing and douching.—Editor.)

The symptoms of the disease are those commonly seen in acute and chronic infections of the genitalia, most closely resembling those of a gonorrheal infection. The writer emphasizes the necessity of a more careful microscopic examination of suspicious secretions. This seems important, not only for the purpose of exact diagnosis, but also for therapeutic reasons. These blastomycetic infections remain practically uninfluenced by the common antiseptics, but seem to yield best to the use of solutions of salicylic acid preparations.

Results of Prolapse Operations.—Scharpenack (*Zentralbl. f. Gyn.*, 1907, No. 36).—The author reports the very satisfactory final results obtained with Schauta's operation for extreme cases of uterine prolapse. (The uterus is brought into the vagina through an opening made into the anterior vaginal fornix and fixed in this position. The tubes are resected, perineum repaired.) Of seventy-two patients operated in this manner fifty-seven later felt practically free of annoyance, four had some pain, and eleven did not feel better. Of forty-five patients who could be examined at a later date only in five the prolapse had returned, in twen-

ty-one the result was perfect. The writer is convinced that a thorough familiarity with the technique of the operation practically excludes the possibility of a recurrence after this operation.

PEDIATRICS.

IN CHARGE OF
ALFRED FRIEDLANDER, M. D.

BACTERIOLOGY OF WHOOPING-COUGH.—Albrecht reports the results of his investigations of this subject, to the Vienna Medical Society (Rev. *Mens. des. Mal. de L'Enf.*, September, 1907).—His work is based on a study of 200 autopsies on children dying of pneumonia, consequent on whooping-cough, and on the study of the expectoration in 70 cases of whooping-cough. In all of these cases there was constantly found the bacillus pertussis of Eppendorf. Albrecht thinks that this bacillus is not to be distinguished in any way, either morphologically or biologically, from the bacillus of influenza, and it would seem that we could say that the same bacillus can produce both diseases. Furthermore this bacillus seems to play an important role in measles, because Albrecht found this bacillus in 80 per cent in all fatal cases of measles. By inoculation of guinea pigs, Albrecht has succeeded in obtaining a serum which agglutinates this bacillus in a dilution of 1 to 400. The inoculated animals presented more or less marked myocardial lesions, and at times there were produced vegetations on the mitral valve.

CRANIOTABES.—Aucouturier (*Th. de Paris Arch. Med.*, September, 1907) says that softening and thinning of the cranial bones is most frequent between the 3rd and 8th months of life. It is not the cause of convulsions or spasms of the glottis, which may occur coincidently with it. All of these symptoms have a common origin, namely: digestive disturbances; improper alimentation in early infancy. Craniotabes is a rachitic lesion, especially frequent where rickets supervenes early, but it is noteworthy that in many cases, craniotabes exists in well nourished infants, breast-fed, without any trace of rickets. In other words, while craniotabes is usually of rachitic origin, it is not invariably so. According to the author, craniotabes is frequently seen in cases of hereditary syphilis, but the syphilis is not its direct cause. Syphilis acts on the state of general nutrition and produces rickets and craniotabes at the same time. In congenital rickets, craniotabes accompanies the other malformations, but it may exist alone at the time of birth and later be followed by other manifestations of rickets.

EDEMA IN THE NEWLY-BORN AND THE INFANT.—d'Astros (Rev. *Mens. Des. Mal. De. L'Enf.*, Sept. 1907) says that edema is a common manifestation in the debilitated newly-born, especially in the premature infant. Simple edema of the newly-born is found most often in premature infants, especially in very feeble infants of this class. It may appear immediately after birth or not for several days. Its first localization is most often in the lower extremities, though it may spread in some cases so as to be more general. In some cases it disappears in 3 or 4 days under proper treatment (external warmth and proper alimentation), though it may last much longer. In the course of such simple edema there is no albumen found in the urine. It is probable that this edema is due to

respiratory insufficiency and to circulatory stasis. In certain cases the edema of the newly-born is to be attributed to an acute infection of septicimic nature. Such infection, in nearly all of these cases, has attacked the kidneys, whose power of elimination is therefore reduced. The diagnosis of such infective edema can often not be made at first, but if the case of edema shows albuminuria, or if the umbilicus, the skin, the pharyngeal mucous membrane or the digestive or respiratory tract, show evidences of inflammation, such an infective edema must be suspected. Certain chronic infections may also produce edema in the infant. In this class, hereditary lues plays a most important role. The edema in syphilitic children may develop later, but at times it may be of diagnostic importance. In cases with enlarged liver and enlarged spleen, the presence of edema adds to the probability of the diagnosis of hereditary syphilis. Affections of the respiratory system may also cause edema. In addition to the infective edema noted above, it is noteworthy that certain forms of cough, especially convulsive cough, may produce a facial edema (influenza and pertussis). Finally, edema may develop as a consequence of grave digestive disturbances following sever cases of enteritis, and true anasarca may develop. In many of these cases there is no albumen in the urine and the edema is due to a retention of the chlorides in the tissues.

THE INFLUENCE OF CONSANGUINITY OF THE PARENTS ON THE CHILDREN.—Feer (*Jahrbuch f. Kinderheilk.*, Aug., 1907), as a result of his study of the literature and of personal observation, reaches the following conclusions: Characteristic or harmful results cannot be proven to be due to consanguinity of the parents, because the characteristic diseases of the descendancy of consanguineous parents can be explained by reference to other facts of heredity. A tendency to certain very rare diseases, and in addition to retinitis pigmentosa and congenital deaf-mutism, is much more likely to be inherited if these diseases are found in both parents. Inasmuch as the probability of such tendencies occurring in both parents is greater in consanguineous than in non-consanguineous parents, it becomes probable that with reference to retinitis pigmentosa and congenital deaf-mutism, consanguinity in parents plays some role.

OPHTHALMOLOGY.

IN CHARGE OF
JOHN GREEN, JR., M. D.

ON TEMPORARY HYPERTONUS.—Dufour (*La Clin. Ophtalm.*, June, 1907).—The so-called nocturnal dry conjunctivitis, of which the symptoms are heaviness of the lids on rising, feeling of resistance to ocular movements, and absence of secretion, is, according to Dufour, really the expression of an evanescent rise of tension. The increase of tension is said to be due to the dilatation of the pupil consequent on the darkness, to the lowering of the force of the general circulation, and in some cases to pressure on the vessels of the neck by tight clothing.

No direct evidence of increase of tension is given, and the whole conception seems a bit nebulous. Treatment recommended is pilocarpine on retiring, light kept in bedroom during sleep, and active exercise soon after rising.

CLINICAL AND THERAPEUTICAL CONSIDERATIONS IN BUPHTHALMUS.—Abadie (*La Clin. Ophtalm.*, June, 1907).—Abadie makes the distinction

between glaucoma and buphthalmus, in that in the former the rise of tension is due to an affection of the sympathetic, and in the latter there exists a chorioretinitis which may escape detection because of the haziness of the media, or because it remains confined to the anterior portion of the globe. Under favorable circumstances areas of atrophy and abnormal pigmentation of the choroid can be seen. Even if these signs are not discoverable, the disease is probably present, for the same method of treatment proves effective as in those cases in which the choroidal lesions are expressed. The treatment consists in the administration of mercury, preferably by intramuscular injections. A case is mentioned in which several sclerotomies had been performed with no result beyond the production of iridic herniæ, but injections reduced both the tension and size of the globe permanently. The conclusion drawn is invariably to try mercurial treatment before resorting to operation and then to begin with parecentesis and only if this fails do iridectomy.

Passive Congestion in Ophthalmology.—Hesse (*Centrallb. f. Aug.*, May, 1907, p. 133).—Hesse has employed suction by means of glass cups in all cases of serpent ulcer within the past year. The application is made over the open lids, twice daily for 10 to 30 minutes, with short intermissions after each ten minutes. The operation is not painful and it relieved the frequently violent pain at once. Only in three cases out of twenty-three was the treatment a failure, and these were complicated by dacryocystitis. The average duration was eleven days.

Preventive Treatment of Transferred (So-Called Sympathetic) Ophthalmia.—Oliver (*Journ. A. M. A.*, July 27, 1907).—Conditions tending to diminish the number of cases of this formidable disease are: (1) Better construction of factories and shops; (2) compulsory employment of protective devices by workmen; (3) personal cleanliness; (4) prompt treatment of ocular injuries; (5) immediate attention to first aid, and (6) the best possible instrumental equipment of hospitals and dispensaries. Direct causes are to be reached by increased certainty in the use of the x-ray for localization, the prompt removal of foreign bodies from the interior of the eye, early enucleation of hopelessly injured globes, better preparation of the patient for aseptic operation, continuance of control therapy, and better facilities for keeping the patient under prolonged observation.

OTOLOGY AND LARYNGOLOGY.

IN CHARGE OF
W. E. Sauer, M. D.

Otitic Phlebitis; Its Symptomatology, Diagnosis and Treatment.—McKernon (*Jour. A. M. A.*, Sept. 14, 1907).—According to the author, the principal symptoms in otitic phlebitis are, gradual rise in temperature to 104-106 degrees F., which is quickly followed by a remission to normal or below, the rise in temperature depending upon the amount of septic material entering the general circulation; and the exacerbations may be one or several during the twenty-four hours, depending on the rapidity and the quantity of the poison entering the general circulation. Chills are present in about 50 per cent of cases, and they usually precede the rise in temperature. The patient may exhibit simply chilly sensations which are quite as important as a definite

chill. The pulse is rapid, 120 to 160, except when there is pus in the brain; then it may be much slower. The respiratory changes are slight in the early stages of the disease, but increases to 40 or 50 during the hyperpyrexia. Pain is usually very great. Nausea and vomiting are usually present at some stage of the disease.

The diagnosis is made by the above symptoms, and in those cases where the sinus is operated on at the time the mastoid operation is done, we are guided by the physical signs present. Briefly, they are, at times the presence of a necrotic area of bone above and around the sinus, with usually a perisinuous abscess. The dura is thicker than normal, dark in color and lustreless; at times there is adherent to the sinus wall a grayish plastic exudate; the sinus looks flat, is easily compressible and does not refill rapidly.

The treatment consists in removing a little of the bone from the sinus, from a point above the bend of knee, down to the region of the bulb. Small pieces of iodoform gauze are rolled up and placed over the upper end of the sinus, pressed firmly under the edge of the bone to cut off the circulation in the vessel. A similar piece of gauze should be placed over the bulb, and the dura forming the anterior sinus wall should be freely incised and the contents evacuated. The gauze over the bulb is removed, and if there is a free return of blood, the sinus is packed and we must await further developments.

Intratympanic Operations Under Local Anesthesia.—Ballin (*N. Y. Med. Jour.,* Oct. 5, 1907).—The author's method of anesthetizing the drum membrane is as follows: The external auditory canal is first thoroughly cleansed with an antiseptic solution. A small piece of cotton is then placed in the canal so as to protect the drum against the ethylchloride spray, which would otherwise cause too much pain. Having done this, a cleft speculum is introduced in such a manner that only the superior wall of the canal is exposed to view. With the aid of an assistant a spray of the ethylchloride is now allowed to play on this exposed surface, and as soon as the parts are well anesthetized the needle of the syringe is quickly introduced at the junction of the bony and cartilaginous canal, and the fluid is slowly injected. The author uses 10 to 15 minims of a 1 per cent solution of cocaine, to which 5 to 6 minims of adrenalin solution (1-1000) have been added. Injection must be carried out very slowly so that infiltration takes place gradually, thus avoiding unnecessary pain. The little piece of cotton is now removed from the canal; waiting from 5 to 10 minutes it will be noticed that the drum has a bleached appearance, and has also become so insensible to pain that a paracentesis can be performed without any annoyance to the patient. The operation takes about 10 minutes, and can be employed in all adult cases; children being too restless, generally require a general anesthetic.

The Mouth of the Esophagus.—Killian (*Laryngoscope,* June, 1907).—According to the author, a circularly arranged musculature distinctly guards the entrance to the esophagus. This musculature is evidently closely connected with the cricoid cartilage, or else it would not be possible to pull the orifice of the esophagus forward with the larynx when traction is made on the latter. Anatomical investigations prove that the portion of the inferior constrictor, known as the cricopharyngeus, is thus closely connected and begins on the side of the cricoid cartilage behind the cricoid-thyroideus, loops around the entrance

of the esophagus, and reaches the other side of the cricoid cartilage. The element of tonic contractility of this muscle explains the phenomena. The author has found, after examining a number of subjects, that in the area of the lower third of the cricoid cartilage, a thick, crescent-shaped fold protruded bilaterally from the posterior wall of the hypopharynx forward to the cricoid cartilage. The observation explains a whole series of phenomena which until now were more or less obscure. He concludes by saying, that this condition accounts for the fact that the mouth of the esophagus is a favorite site for the lodging of foreign bodies; that in the introduction of instruments, great resistance is met here, and that we may safely assume that spastic irritations in the mouth of the esophagus may contribute somewhat to the formation of pulsating diverticula of the esophagus, which are really of the hypopharynx.

MEDICAL LAW AND MEDICAL JURISPRUDENCE.

IN CHARGE OF
IRVIN V. BARTH, LL. B.

BASIS OF EXPERT OPINION.—Louisville Ry. Co. *vs.* Oppenheimer (Court of Appeals of Kentucky, October 18, 1907).

In a personal injury action the defendant introduced a physician who had treated her to testify as to her symptoms and physical condition. The physician, after detailing the symptoms, was uncertain in his testimony as to what those symptoms indicated—as to whether she had suffered a miscarriage or was suffering from polypus. Three other physicians, who had heard the testimony of this physician, were then introduced, and were allowed to testify that from the symptoms indicated by their brother physician, already in evidence, in their judgment defendant had suffered a miscarriage. It was held on appeal that the three physicians' testimony was properly received. The court said: "There was no contrary evidence as to the facts. The experts were not told to weigh any facts, but they took as true the facts stated by Dr. Hitt. His statements were clear and unequivocal. They were not contradictory in any way, and so when the questions were put to the witnesses in this form the result would have been substantially the same if the attorney had grouped in one question the facts stated by Dr. Hitt and asked the experts their opinion of what was the matter with Mrs. Oppenheimer from these facts."

NOTE.—As intimated by the court, had the facts already in evidence been addressed to the experts in the form of a proper hypothetical question, their testimony would have been received without question. It is clear, therefore, that on principle the physicians were properly allowed to testify by offering an opinion based upon the undisputed facts developed by another witness whom they heard testify in the cause. This is in accord with the great weight of authority. But it must be here observed that physicians are not allowed to testify as experts where they base their opinion upon statements made to them by parties out of court and not under oath. Accordingly it has been held that "the opinion of a physician, called in consultation with the attending physicians, cannot be received if based upon declarations made to him by such physicians, or by the wife and nurse of the patient, as to his previous symptoms or condition." Likewise, is an expert disqualified from testifying where his opinion is founded

upon minutes of the testimony of others in court taken by counsel, rather than upon the testimony actually introduced.

But this principle of exclusion does not apply to the opinion of a physician based *in part* on statements made to him by his *patient,* intended to enable the physician to more accurately diagnose the case and prescribe a course of treatment. Although it is well established that physicians may give to the jury their opinion founded on a personal examination of the patient, and on statements made by the patient at that time as to his *present* bodily condition, the law is somewhat confused when that opinion is based upon a narrative of past experience by the patient, or upon a "history of the case." Rogers, in his work on "Expert Testimony," says: "The physician cannot give to the jury as evidence the patient's history of the case, or statements in respect to the cause of the trouble, or in respect to past experience with it; neither can he express an opinion which he bases on such history or statements as to past experience. But it has been held that a physician may testify to a statement or narrative given by a patient in relation to his condition, symptoms, sensations and feelings, both past and present, when such statements were received during, and were necessary to an examination with a view to treatment, or when they are necessary to enable him to give his opinion as an expert witness." And in Missouri, in the case of Halloway *vs.* Kansas City (1904), 184 Mo. 19, the rule was expressed as follows:

> "The statements of plaintiff with respect to her past physical condition were mere heresay, and should not have been considered by the expert in expressing his opinion as a witness as to her physical condition at the time of the trial. The decided weight of authority and the better reason we think supports this contention. It follows that the court committed error in allowing the expert witnesses to give their opinions based upon the history of plaintiff as they learned it from her in diagnosing her case, or while treating her."

Much of this inconsistency would seem to be more apparent than real. The reason of the hearsay rule would properly exclude an opinion based *wholly* on a narrative of past experiences by the patient, but would make an opinion competent where such opinion has its foundation essentially on a personal examination of the patient, aided by his statements as to condition, past and present, and calculated to throw light upon the disease or injury. This principle should reconcile many of the decided cases.

CORRESPONDENCE.

LONDON LETTER.

(FROM OUR OWN CORRESPONDENT.)

The Harveian Oration before the Royal College of Physicians of London was delivered this year by Dr. Frederick Taylor, now Consulting Physician to Guy's Hospital. It was the express wish of Harvey that "once a year there shall be given a solemn oration to commemorate the benefactors of the College, and to encourage its members to search out the secrets of Nature by way of experiment." For the annual fulfillment of his wish he made due provision, and the long list of orators reaching from just after Harvey's death down to the present year includes all that is best, all that is sagest, and all that is most distinguished in English medicine. It affords an opportunity not so much to do honour to Harvey and the splendour of his discoveries, or to justify the scientific method he employed, but rather to pass in review the actual position of medicine and to insist upon the need for further research on Harvey's lines into the mysteries of nature. Coming from one having the authority of eminent position, of proven worth, of ripe experience, and of seasoned judgment the oration forms a most effective corrective to the clotted nonsense put forth in all seeming seriousness by the opponents to research by experiment. Dr. Taylor right worthily maintained at their high level the traditions of his office, and made a powerful appeal to the lay public to promote, rather than to hinder, scientific research not indiscriminately but on the ordered plan deemed necessary by those best qualified to judge. The progress already attained has been enormous; equally so si our ignorance of natural phenomena in relation to disease and its treatment or control. Starling's work on the chemical relations of the functions of the body was instanced as being particularly in accordance with the spirit of the man who was being commemorated that day. The improvements in surgical practice leading up to aseptic methods and the advances in therapeutics were briefly discussed, more especially those of the latter connected with prevention and immunity, treatment by antitoxines and opsonic methods. The reverse side of the medal was shown by the fact that among the diseases of which the micro-organisms were known, few can be prevented, cured, or exterminated by the physician. As an apt example influenza was quoted, for, although for fifteen years its micro-organism has been known, no advance has been made towards checking its Protean vagaries.

After the Oration the President of the College, Sir Richard Douglas Powell, presented the Baly medal to Professor Starling for distinguished services to physiology, and took advantage of the occasion to express his peculiar pleasure in making the presentation of a medal founded in memory of a great and humane physician to one who had suffered most unjustly from accusations of inhumanity in his work, the brilliancy of which and the humanity with which it had, at all times, been conceived and carried out were recognized by the scientific world at large. The professor was formerly lecturer on physiology in his old school at

Guy's in succession to Wooldridge, leaving there to succeed Professor Schäfer at University College.

In his scheme for the re-constitution of the Army no detail has escaped the meticular vigilance of our Secretary of State for War. Mr. Haldane is nothing if not thorough, but he has the happy gift of using the *suaviter in modo* to great advantage and thereby gets things done. In order to settle the matter of the medical duties required by the Territorial, or Home Defence, Army he has taken a course which should undoubtedly lead to complete success. Sir Alfred Keogh, the Director-General of the Army Medical Services, has been given a free hand in organizing a Royal Territorial Medical Corps and is addressing meetings of his own profession asking frankly for their help and advice in bringing about a workable and satisfactory scheme. "The old order changeth yielding place to new." The foretime Army doctors were, next to, but after, the chaplains, the most military men in the Army, and from this elevated position they looked down with scorn upon the rest of humanity—civilian humanity that is, especially that part of it engaged in the humbler walk of general practice. It must be confessed that the scorn was in large measure returned with interest. A far better state of affairs has been gradually in process of evolution, and the course taken by the Director-General is of the happiest omen. It is proposed to organize a medical service in three distinct branches. One of these will serve with the force in the field and on the lines of communication, whose duty will consist in keeping the field force entirely clear of sick and wounded, passing them as rapidly as possible back to a station or general hospital, *viâ* field-ambulances and clearing hospitals. The existing Volunteer medical staff can, and is willing to, be adapted to form the basis for this service. It is in the organization of the second branch, the provisions of medical and surgical staffs for the general hospitals, that the co-operation of the medical profession is invited. The hospitals and the administrative staff will be supplied by the Army, but Mr. Haldane relies on the patriotism of the medical profession to furnish the professional staff. The third branch is the establishment of a sanitary service. Such a service has recently been organized in the regular army, a school being established at Aldershot under the able superintendence of Lieut. Col. R. H. Firth, to whom is due the credit for the conception and realization of this most useful and, as past experience shows only too painfully, supremely necessary service. It is quite independent of the hospital department and has already proved most satisfactory in working. Sir Alfred is appealing to the Medical Officers of Health for their co-operation in this part of the scheme. There is very little doubt but that a thoroughly workable and practical scheme will eventually be secured, and such a result will be largely due to the tactful and courteous way in which the matter has been submitted for consideration.

The Bradshaw Lecture at the Royal College of Physicians of London was delivered by Sir James Barr, Senior Physician to the Liverpool Royal Infirmary, who chose for his subject pleural effusion and its treatment, dealing more particularly with the physics of the pleura, which he considers to be of more importance in the treatment of pleurisy than a good many of the drugs in the *Pharmacopoeia*. For treatment Sir James now recommends the complete withdrawal of the effusion in all cases by means of the siphon in preference to the aspirator. Before

any great negative pressure is established and before the patient feels any discomfort the siphon is stopped and sterile air, equal in quantity to the amount of fluid withdrawn, is introduced into the pleural cavity. The siphon is then re-established and all the fluid withdrawn. This done, an injection of 4 c.c. of adrenaline solution (1 in 1000), diluted with 8 or 10 c.c of sterile normal saline, is introduced and if necessary more sterile air so as to make the total amount equal to half or three-fourths of the bulk of the fluid withdrawn; the larger quantity is introduced in tuberculous cases. Air is preferable to oxygen as it is more slowly absorbed. His attitude towards drugs for promoting absorption was illustrated by the not infrequent reply of an Irishman when questioned as to the good effect of a medicine, "Well, thank God, it has done me no harm, anyhow."

November 9, 1907.

PARIS LETTER.

(FROM OUR OWN CORRESPONDENT.)

ABOUT FORENSIC MEDICINE.

If in the majority of cases of sudden death it is possible to say that a lesion of the heart, of the lungs, the brain and the kidneys, is the cause, there yet remain a number of cases in which it is impossible to solve the problem of the immediate cause of death, for neither a bacteriological nor a toxicological examination can be the means of arriving at a correct conclusion. And when this uncertainty causes the guilty to be set free or the innocent to be condemned, the complications which beset the problem are awful to contemplate. The medical expert upon whom rests the responsibility of making clear to the court the true cause of death should not overlook the slightest scientific point bearing on the case before arriving at his conclusions; in fact he should not advance any ideas until sure of his attitude. Above all he should guard himself from putting forth an hypothesis or giving credence to his intuitions.

A case which some two years ago made a considerable stir and which has recently been opened under particularly distressing circumstances, has brought to light a controversy which contains the delicate question as to the worth of medical testimony in a criminal court. One, Jeanne Weber, who had the care of infants, had the misfortune to lose four of them within one month. A few days later another developed alarming symptoms and, upon being taken to a hospital, an examination revealed a blackish groove around the child's neck which indicated that an attempt at strangulation had been made. Jeanne Weber was immediately arrested and an exhumation of three of the four bodies (the fourth child died of diphtheria) was instituted. Three experts were summonsed and all agreed that it was impossible to determine the true cause of death because the bodies bore no signs of violence and the viscera showed no indications of poisoning. The case was tried in the Court of Assizes, in January, 1906, and a verdict in favor of the defendant was returned.

The case was forgotten, when on April 17th last, near Chateauroux, a young child, apparently well the day before, suddenly died in the arms of a domestic who proved to be Jeanne Weber. The two medical practitioners who conducted the autopsy reported that around the child's neck they found an ecchymotic line. However, they could find neither a subpleural nor a subpericardial ecchymosis. Unable to arrive at a

definite conclusion the experts declared that it was clear to them that the marks of violence must have been inflicted on the child during life.

On July 27th the body was again examined by the two experts from Paris who had performed the autoposy on the first bodies. Both experts from Chateauroux were present at this second autopsy but they did not waver in their conclusion as noted above, though their colleagues from Paris attributed the death to walking typhoid. On account of this discord and the procureur-général giving as his opinion that there was not sufficient cause to give rise to an action at law, the Chamber which returns indictments in France has recently named three new experts who will study the documents relating to the case and make a statement which shall be considered the last resort.

Such in brief is the résumé of the events of the case. We are quite sure that the Paris medical experts, one of whom is professor of jurisprudence, are really of the opinion that their colleagues at Chauteauroux allowed themselves to be influenced by public opinion, which is decidedly hostile to Jeanne Weber, and that it would be well for the Chauteauroux physicians to remember that a medico-legist cannot be improvised; moreover medical jurisprudence is a specialty which demands special study so as to prevent a false interpretation of so-called facts, a mistake easily made by all those inexperienced in such matters.

The fact that a number of children had died whilst in the care of Jeanne Weber cannot be disputed; but we do not also know that analogous cases have taken place where it was impossible to attribute the cause to any criminal intervention? Especially with children sudden death is not infrequent and as for strange coincidences they occur often enough not to fill us with surprise. Therefore can we say in all truth that public opinion as evidenced at Chateauroux influenced the experts of that town as regards their opinion?

Perhaps the report of the three new experts will be the means of arriving at the truth. Meanwhile it would be well to remark that this case has brought to light the question of the competence of medico-legists, and the judgment exercised in their selection. The Paris faculty some years ago created a special diploma for medical jurisprudence and psychiatry; it was firmly convinced that by doing this certain recognized defects would be remedied. Now the outcome of this move on the part of the Paris faculty has caused nothing but discontent; and the intricacies when a question in forensic medicine comes up are the same as they were before the diploma was granted. Since this diploma gives the possessor no special prerogative, and the judges have the right as to the choice of medical experts, generally physicians who have their confidence, it can readily be seen that this course of procedure is not faultless.

Thus we see that legal medicine cannot be learned in a few months, and that to draw up a report requires something more than a book knowledge of the subject. That is to say, directly upon leaving a medical school one is not at all capable of filling so exacting a position as that of medico-legist; in addition to knowledge and professional experience, it should be imperative that a knowledge of mankind and things in general should be acquired; and this can be done only after years of hard study. In the beginning of one's career there is often lacking the sangfroid necessary to resist all suggestion from without; and to limit one's conclusions to the stated facts, without affirming anything which might be construed as one's own opinion, can be acquired only after a long apprenticeship. For truth to say, it is precisely in connection with

what we have just stated that the real difficulty in selecting a medical expert, especially in criminal cases, occurs. Under the conditions which exist today the selection of medico-legists cannot be based on scientific grounds. Nevertheless, the problem is sufficiently grave to warrant deep thought, so that results in conformity with the wish of society, the demands of science, and the exigency of the highest court, may be achieved.

November 15th.

LETTER FROM THE PHILIPPINES.

(FROM OUR OWN CORRESPONDENT.)

To Americans first coming to the Islands the hyperactivity of the skin is a source of considerable annoyance and discomfort. To the medical man the various phenomena connected with the action of the skin are of much interest. Localized sweating is common and I have recently observed a case in which there was profuse sweating of one leg at night, the rest of the body remaining dry. Another peculiarity is the rapid disappearance of callous spots from the feet. A chiropodist would find little to do here, I fear. Notwithstanding this, skin diseases are very common and few persons who reside here for any length of time escape the many infections that exist in this part of the world. Urticaria seems to be especially common, and one sees a great deal of prickly heat, dhobie itch and furunculosis. Dhobie itch is often applied to a variety of diseases, but most of us out here recognize two varieties, the vesicular form and the ringed form, the latter being probably a tinea circinata. Where so much of the washing of clothing is done by native women who never boil the clothes, it is not surprising that this disease should be easily contracted.

A disturbing and peculiar affection known as pompholyx is extremely common among the whites and is occasionally seen in the natives. The palms of the hands and soles of the feet, the sides of the fingers and toes and the web between are the ordinary seats of the disease. The pathological features are hard, shot-like papules which are deeply seated and push their way up, as it were, to the surface. These contain a clear fluid which exudes when the papule is punctured. They often exist in vast numbers and the affair is a serious matter sometimes, since the papules are very painful and often become infected. Successive crops may appear under the old lesions, as the skin is being shed, rendering the affected individual miserable for months; I have seen a case in which a man was unable to walk for eight months on account of the disease; the origin and cause of the disease seemed to baffle all investigators. Local applications seem useless and the only remedy which has any effect is arsenic.

I recently talked with an army surgeon, who is at present working upon the cause of the disease, and he expects shortly to contribute something of value concerning its etiology. Several cases of yaws have been seen in the southern Islands and it is probable that the disease is common. One case has occurred in an American soldier; whites, therefore, are by no means immune. I have seen a number of fresh cases, mostly in young children in the same family. In one instance the mother showed the scars of old yaws long ago healed, while the four children presented characteristic mulberry-like growths. Yaws is supposed to be a general or constitutional disease with local manifestations, but in a number of cases there are but four or five growths upon

an individual, so that surgical treatment, namely, excision, would seem to be a wise measure, especially as the affair seems to be autoinoculable. In a case recently seen there was a large yaw upon the side below the ribs and another had just developed over the inner condyle of the arm where the skin had come in contact with the infectious material. When sectioned and stained the yaw shows spirochætæ and this has led some to believe there is some connection between it and syphilis. This is probably not the case, since the spirochætæ in no wise resembles the pallida. Potassium iodide is generally used in treatment, but it as often fails to improve the patient as the reverse. I have given a case mixed treatment with no apparent benefit. In another case I excised the lesions with good resutls and no return after several months.

One cannot be here long without becoming enthusiastic over the examination of the feces. A wealth of material is there and he who neglects this important feature of the laboratory examination in the tropics, falls far short in his mission. At one of the large army posts which I have just visited one of the medical officers devoted his whole time to laboratory work. Every case admitted to the medical ward was examined for intestinal parasites, no matter what the diagnosis. The result was surprising. Men who had "indigestion" were found to harbor ascaris lumbricoides, tænia solium, the whip worm, ankylostoma duodenalis, flukes, and amœbæ. In almost every specimen can be found amœbæ, and doubtless all persons who have been here a couple of years have these parasites. They are not active but have assumed the "resting," or ringed, stage and it probably needs some bowel lesion to bring out their motility and pathological activity.

It is doubtful if there is a native one here who does not harbor one or more varieties of intestinal parasite, and a doctor in Manila stated to me some time ago that he had not done an autoposy for many months upon a native without finding one or more ascaris lumbricoides.

At all army posts and even in the field, the American soldier is well cared for; he is obliged to drink nothing but boiled water and is punished if he disobeys, but even with all this care, there are always a few cases of dysentery to be found, while among the Americans here, who form the civilian population and who are not as careful since they are not under surveillance, there must be many cases of incipient dysentery which are perhaps regarded at first as simple cases of dyspepsia.

A short time ago cholera appeared in Leyte and is still unchecked in one or two towns. It also appeared in Manila, but the fear that a sweeping epidemic would occur proved groundless. Sanitation and sanitary principles are upon a fairly firm ground; now and then are energetic and capable health officers everywhere in the Islands, so that there is no reason to suppose that the situation will not be controlled.

Dengue seems to be fairly frequent this year in some parts of the archipelago and has appeared in epidemic form among some of the native troops.

Endemic hemoptysis, so common in Japan and Formosa, is not infrequent here. The cases are generally mistaken by the inexperienced for tuberculosis and the cough and blood spitting are certainly very suggestive. If the sputum be stained for tubercle bacilli, none will be found. A medical man here reported to me that he cound not understand why so many of his apparently serious tuberculosis cases with blood spitting got well. I think to assume that these were cases of endemic hemoptysis, infectious with the *paragoninus,* would explain the curious fact. The disease does not seem to be very serious and the individual

may seem perfectly well most of the time. The trouble is easily diagnosed if a little of the bloody material in the sputum be examined fresh; the paragoninus eggs are then easily recognized.

If one can put up with absence from the United States, with the consequent loss of the many pleasures he has there; if he is willing to lead the simple life and cares to work with a microscope, to him the Philippine Islands hold out many treasures in the solving of the medical and sanitary problems which confront the white race, transplanted by destiny to the tropics.

OBITER DICTA FROM FOREIGN JOURNALS.

A FEW REMARKS ABOUT JOURNALISTS.

"For some weeks measures have been taken by the physicians of Charenton (France) to increase their rather modest pay," writes A. Demmler, in *Le Progrès Médical.* On account of this effort, which was modesty itself, for the increase suggested was slight, a veritable war against the physicians has been opened up by the daily press; the *Petite République,* in particular, going so far, in its issue of October 16th, as to accuse all physicians of disowning the grandeurs of the Samaritan. It would be well here to relate an anecdote that might interest our friends, the journalists. It is said that on a certain occasion Velpeau was called upon to spend all night with a patient. Upon demanding a modest remuneration the patient indulged in considerable criticism, not to say abuse. Velpeau, containing himself, replied: "For the amount I am charging, would you do as much for me as I have done for you?"

To the writer of the article in the *Petite Rêpublique,* who accuses us of forgetting the duties of the Samaritan and indulging in exaggerated pretensions, we would put the question: Would you, writer of wise words, fill the role of the Samaritan, that is to be in the streets at all hours; climb, no matter what your age, innumerable steps to reach apartments on the top floor, only to be greeted with disagreeable words, frowns and general surliness; have your sleep and meals interrupted; your family life, your holidays, upset by nervous patients, who though tearfully pleading for help are really rank egoists; in a word, be to the end of your days this wonderful Samaritan, without the privilege of sleeping when sleep is absolutely necessary, with no rights, no advantages, sometimes no remuneration, and even niggardly denied the glory that should come from attending many cases gratuitously?

You would hesitate about filling this arduous part, of that we are certain.

Instead of accusing physicians of cupidity it would be well, for the writers of the press, to come into closer contact with them so that a knowledge of their mentality could be acquired. With a better understanding of the mental status, we feel that our critics would be convinced that the best course for them to pursue is to allow the physicians to judge for themselves as to the propriety of their actions. Surely, disinterestedness, devotion and self-sacrifice—characteristics of the daily life of the busy practitioner—need no lessons from without. And further, charities of the silent sort are not less altruistic than their congeners with flamboyant signs. Therefore, to remind the past-masters of the silent charities, the physicians, of their duties is supererogation, for have they not always been in the vanguard of the fighters for the alleviation of human misery.—(Translated for the Interstate Medical Journal).

TREATMENT AND PROPHYLAXIS OF SYPHILIS.

At the Congress of Hygiene and Demography recently held in Berlin, Prof. Metchnikoff delivered an exhaustive address on the treatment and prophylaxis of syphilis. Among other things he said: "The principal reason why I experimented on monkeys was to ascertain if atoxyl could be utilized in the prevention of syphilis at a period when *pommade au calomel* was useless. The fact that an injection of atoxyl, made a fortnight after the inoculation, prevented an infection, was to me a matter fraught with the greatest importance. But the question of the toxicity of atoxyl which has agitated the physicians who have used this medicament, loomed large before me. If it be true that this arsenical preparation affects the sight, it can readily be seen that one would hesitate employing it, especially as a prophylactic measure. But should the doses which suffice for a monkey be taken as a basis for the quantity to be injected into an adult male, the calculation of about 2 grammes for an individual weighing 60 kilos (132 lbs.) would not be incorrect. But this should not be forgotten, that since it has been shown that the cure of syphilitic manifestations, in some cases, is accomplished with smaller doses, it might be possible that a prophylaxis could be achieved with doses of less strength.

"M. Hallopeau, who has had the widest experience with atoxyl in the treatment of syphilis, recommends an injection of 75 centigrammes, followed by a second injection of 60 centigrammes, and a third of 50, making in all 185 centigrammes. In no case where similar treatment was pursued did he observe intolerance or any signs of toxicity.

"I should like to take this opportunity of remarking that in one of my experiments a pig-tailed macaque received only 5 centigrammes of atoxyl, eleven days after inoculation with the syphilitic virus. He died 46 days after, without manifesting any signs of syphilis. While this delay in administering atoxyl cannot as yet be advocated, though in some cases the period of incubation lasts more than 50 days, the fact remains that a dose of 5 centigrammes for a monkey weighing more than 2 kilos (4½ lbs.) prevents the hatching of syphilis. Before I was able to repeat the aforementioned experiment, I was compelled to apply the medicine to a man, who solicited my intervention. This individual was cultured and decidedly intellectual, and he came to me on account of extreme anxiety following a suspicious sexual contact, which took place 5 days before. To my question: 'Why do you not use *pommade au calomel?*' he replied that this old preventive was unknown to him. He begged me forthwith to administer atoxyl since his anxiety was almost driving him frantic. Although it was impossible to establish with certainty the possibility of an infection, Docteur Salmon, remembering his experiments on monkeys, decided to make two subcutaneous injections of atoxyl, of 50 centigrammes each, at intervals of two days. This treatment relieved the patient of his anxiety thereby restoring his normal moral tone; furthermore there were not the slightest manifestations of toxicity. In the second case, Dr. Salmon had to deal with a neurasthenic who neither

slept nor desired at any cost to be treated in a preventive way for fear of being infected with syphilis. Nevertheless he received two injections of 50 centigrammes of atoxyl without showing the least intolerance. Let me add that I do not desire any conclusions to be drawn from these two cases.

"Our hope is that in the near future we will possess an arsenical preparation less toxic but just as efficacious as is atoxyl in the incubative period of syphilis. The experiments which shall lead to this fortunate outcome are making at present. But for the moment, since these experiments are really in their incipiency, we must perforce fall back on *pommade au calomel,* which we do not hesitate to state is now our best preventive in the first hours after an infection.

The remarkable efficacy of this *pommade,* when applied to human beings, as well as the successful results following the use of atoxyl injections in monkeys, indicates that the syphilitic virus, during the greater part of its long incubation, is taken up by the organism only with considerable difficulty. To verify this statement, I will mention that I have examined the serous extract from points of inoculation in the chimpanzee and in two macaques, during the period of incubation, by means of the ultra-condenser of Reichert, which showed very readily the syphilitic spirilla on a dark base and furnished the best means of revealing the presence of these microbes even when the quantity was very small.

After all, in spite of most favorable conditions, we have not as yet been able to ascertain the presence of Schaudinn's spirilla during the fortnight following an inoculation of the virus. This goes to show that a long time elapses before the spirillæ reproduce themselves in appreciable quantities. And it is for this reason that the prophylaxis of syphilis is relatively simple and easy. But the thing that is most difficult, is to convince the public of the importance of this fact."—(Translated for the Interstate Medical Journal).

MEDICINE AND THE NATURAL SCIENCES.

The natural sciences have always been a part of the medical curriculum; in fact, for some time we have been in the habit of calling them disdainfully the "accessory sciences." Little by little their importance as part of a medical education is increasing, and the day is not far distant when the medical man who is not versed in the natural sciences will be thoroughly out of date as regards his attitude to his patient.

It is almost a waste of words to dwell on the well-known fact of the connection between the existence of man and that of animals and vegetables; and to assume, as was formerly done, the independence of man in nature is an extraordinary presumption. Were we to discuss philosophically all the aspects of the question of the relation of the natural sciences to medicine, the discussions would be without end; but what we wish to consider here is man as a living entity in the face of other living entities, and, especially, the war of man against animal organisms in his desire to preserve his health and his life.

The theory of phagocytosis which has solved the problem of resistance to diseases and to infections, a solution which has the support both of doctors and savants, is the work of a naturalist. By studying the amœbæ this theory was arrived at, a theory which has supplanted the humoral theory. Now what is true as to the studies which led to the discovery of phagocytosis, applies to all investigations on immunity and vaccination, which have been made since Metchnikoff's discovery; for undoubtedly they have been inspired by this primordial, doctrinal discovery.

Today medicine is reaping the benefits of the labors of the naturalists. We know the acarus, the helminth, and the filaria of Medine. Again, who but the naturalists have taught us the transmissibility of paludal fevers, of yellow fever, and the development of the insects which carry these diseases to man and animals. The mosquito is the propagating agent of these infections; it retains the virulent germ of these diseases during a number of days; it has the power of transmissibility, and finally its life is possible only under certain conditions of temperature. These are the things the naturalists have taught us as well as their applicability in each particular case. The science of hygiene has been inestimably enriched by these discoveries, and as for medicine it is becoming year by year a less and less inexact science.—(Translated for the Interstate Medical Journal).

BOOK REVIEWS.

SURGERY: ITS PRINCIPLES AND PRACTICE. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL.D., Hon. F.R.C.S., Eng. and Edin., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Phila. *Volume II.* Octavo of 920 pages, with 572 text-illustrations and 9 colored plates. Philadelphia and London: W. B. Saunders Company, 1907. Per volume: Cloth, $7.00 net; Half Morocco, $8.00 net.

This volume is excellent in many respects. The various subjects are presented in an interesting manner, and the work is illustrated for the greatest part by cuts, which are distinctive and adequate. There is, however, an unfortunate curtailment of many of the articles. If there is a definite desire for another system of surgery, this should be a complete work, with the best that each author can give. There is an evident lack of balance in the present work. The Pathology of Disease of the Joints is covered in 14 pages, while 28 pages are given to a rather unusual chapter on Surgery Among the Insane, which is of interest, but not called for in such a work. Another excellent, but much too short, chapter is the one by Spiller on the Pathology of the Chief Surgical Disorders of the Nervous System, and we know of no better beginning for a complete treatment of the clinical picture. It is unfortunate that this excellent chapter is not followed by the chapter on Brain Surgery, rather than by chapters on Nerve and Spinal Surgery. The excellent chapter on Skin Diseases, by Fordyce, could easily have appeared in a later volume.

Chapter XXIII., on Diseases of the Bones, and the part of Chapter XXV. which deals with the Pathology of the Joints, are by Edw. H. Nichols, and covers the field to which he has devoted much time. This presentation is clear and in part complete, particularly the part dealing with the disease of the bones. Tuberculosis of the bones and joints is described minutely, and he takes occasion again to point out that the invasion of the joint is practically always secondary to a bone focus. Osteomyelitis is very well described, and the non-tuberculosis joint lesions are considered from a moderate viewpoint, not entering too deeply into the discussion of the various classifications, or leaning too strongly to any theory.

Robert W. Lovett has the clinical part of joint disease and also the chapter on Orthopedic Surgery in which he covers the subject quite thoroughly and authoritatively, and incidentally gives the most recent report of results of his own and his confreres' work at the Boston Children's Hospital.

D. N. Eisendrath has a chapter on fractures and dislocations, both complete, particularly in the methods of treatment.

An interesting chapter by J. F. Binnie deals with Muscles, Tendons and Bursæ. The parts dealing with muscles and tendons is quite complete and an innovation in classification, which is good. In the consideration of bursæ we fail to find any mention of that very important class, clinically, the subdeltoid bursitis. Gerrish has the chapter on the Lympathetic System. Woolsey's chapter on Surgery of the Nerves, and Surgery of the Spine are both excellently well done. There is a distinct disappointment when one finds so complete a description of peripheral operations for tic douloureux, some of them discarded, and find that we will have to wait for a later volume for the description of the cranial operations.

Another notable chapter is one by Dercum on Traumatic Neurasthenia, Hysteria and Insanity.

PROGRESSIVE MEDICINE. A quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. Price, $6.00 per annum. Lea Brothers & Co., Philadelphia, 1907.

The first three volumes of Progressive Medicine for the year 1907 have appeared. As is well known, the literature of every branch of medicine is in this work carefully and critically considered by a recognized authority in the particular specialty. The essays are not mere abstracts, but interesting and most readable critical reviews, and the contributions appearing in the volumes for 1907 maintain the high standard to which the American reader has become accustomed through the previous volumes of this publication.

HANDBUCH DER GYNAEKOLOGIE. Herausgegeben von Professor J. Veit in Halle. Zweite Auflage. Erster Band. Verlag von J. F. Bergmann in Wiesbaden. 1907. Price: Mks. 16.60.

It certainly must be a source of great satisfaction both to the distinguished editor and to the publisher of this well-known work to realize that a complete exhaustion of the first edition has necessitated the preparation of a second edition. It is obvious that Veit has availed himself of this opportunity to have his handbook include all modern knowledge on this subject. As stated in the preface of the first volume, thorough changes have become necessary. A distinct difference between the new and old editions is the fact that many of the subjects are assigned to new men. Four of the former contributors, Gebhard, Gessner, Loehlein and Viertel, have died; four others, Fritsch, Frommel, Nagel and Winternitz, felt they were not equal to undertake again the onerous work of contributing comprehensive essays worthy of this famous handbook.

The following articles appear in the first volume: The Prevention of Infection, by Franz of Jena; Anomalies of Position and Mobility of the Uterus and Its Appendages, by Kuestner in Breslau; Myoma of the Uterus, Anatomy and Histogenesis being considered by Meyer of Berlin; Etiology, Symptomatology, Diagnosis and Prognosis, by Veit, the editor; Electric Treatment, by Schaeffer of Berlin; Palliative Treatment and Vaginal Operations, by Veit; the Abdominal Operations and Myoma as a Complication of Pregnancy, by Olshausen of Berlin.

Illustrations and book work are excellent, and the lists of bibliography appended to each chapter are the most complete extant.

BAKTERIOLOGISCHES TASCHENBUCH ENTHALTEND DIE WICHTIGSTEN TECHNISCHEN VORSCHRIFTEN ZUR BAKTERIOLOGISCHEN LABORATORIUMSARBEIT, von Dr. Rudolph Abel. Elfte Auflage. Pp. 120. Wuerzburg. A. Stuber's Verlag (Curt Kabitzsch). 1907.

For a number of years the demand of purchasers as well as the rapid advances of bacteriology have necessitated a new edition of this invaluable little compendium every year. Great compression, rigid selection and yet relative fullness of treatment characterize this edition as they did its predecessors. It is intended rather for the occasional worker at bacteriology than for the professional bacteriologist, but in its special field it is unsurpassed.

DISEASES OF THE STOMACH. By Dr. I. Boas. From the latest German edition by Albert Bernheim, M. D. Illustrated. Pp. 730. Philadelphia, F. A. Davis Co., 1907.

Boas's great work on diseases of the stomach requires no commendation on the part of the reviewer. It has been adequately translated, with occasional bracketed additions relating chiefly to the work of American surgeons in this specialty. Unfortunately a new German edition has just appeared, which makes this translation seem out of date even before it is issued.

MANUAL OF DISEASES OF THE EYE. By Charles H. May, Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903; Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York. Fifth edition, revised, with 362 original illustrations, with 22 plates, with 63 colored figures. William Wood & Co., publishers, New York, 1907. Price, $2.00 net.

The continued and deserved popularity of Dr. May's little manual is attested by the fact that it has passed through five editions in the course of seven years. Not only has the work been received with notable cordiality in English speaking communities, but it has also received the distinguished honor of translation into German, Italian, French, Dutch and Spanish. In this (fifth) edition a number of alterations have been made. Some illustrations have been replaced by superior ones and a new colored plate (XVI-A) with two additional fundus illustrations have been added. The volume has been brought up-to-date, but has not been increased in size, the original plan of presenting a book for the student and general practitioner having been adhered to.

SURGICAL DISEASES OF THE CHEST. By Carl Beck, New York. P. Blakiston's Son & Co., Philadelphia, 1907.

There is perhaps no field which could have been more properly selected for a special treatise than the chest, and in this volume there are points of excellence. In writing such a book the author can be expected to have attained

eminence in this special field, or to have added to its knowledge, and to judge from the long list of articles in the bibliography that are from the pen of Dr. Beck he has made the chest a special study, particularly in relation to the Roentgen ray. Throughout the book this phase is given particular prominence, one might say too much prominence. The best chapter in the book deals with pyothorax and its treatment, but some of the methods, such as irrigation of the cavity at the time of operation, are considered uncalled for by some surgeons. The chapter dealing with diseases of the breast falls short in many particulars, while that on subphrenic abscess is quite complete. The anatomy of the throrax is of the ordinary descriptive text-book kind.

HANDBUCH DER GEBURTSHILFE. Herausgegeben von Professor F. von Winckel in Muenchen. Dritter Band, zweiter Theil. Verlag von J. F. Bergmann in Wiesbaden. Price: Mks. 28.

This is the seventh volume of this monumental work. Through the numerous references made in these pages on previous occasions the reader probably is well acquainted with the extensive scope of the work. It is an encyclopedia of obstetrics, comprehensive in every detail of present knowledge of every obstetric question. This second half of the third volume is a book of 1025 pages, containing the contributions of Winckel, Braun von Fernwald, Herff, Walthard and Widbolz, and Doederlein. The subject covered in this volume is the pathology and therapy of the puerperium. Winckel continues his interesting history of gynecology, devoting a chapter to the Italian, English, Dutch, French and Scandinavian gynecologists of the nineteenth century.

PRACTICAL DIAGNOSIS. The Use of Symptoms and Physical Signs in the Diagnosis of Disease. By Hobart Amory Hare, M. D. Sixth Edition. Illustrated. Pp. 616. Lea Brothers & Co., Philadelphia and New York. 1907.

Hare's book has always been one of the best and most complete compendiums of bedside diagnosis. The new edition is fully up to the standard of its predecessors and will be found as useful as they to the general practitioner.

NEPHRITIS. A Manual of the Disease commonly called Nephritis, or Bright's Disease, and of Allied Disorders of the Kidneys. Pp. 134. By Seelye W. Little, M. D. The Grafton Press, New York. 1907.

In this little monograph the author presents the results of his work and his experience in the complex group of conditions characterized by renal insufficiency. Many of his views are original and not all will meet with unqualified, general approval, but the book is stimulating and pleasant reading. The chapter on dietetics in nephritis will be found especially useful.

UEBER DIE DIAGNOSTISCHE U. THERAPEUTISCHE VERWERTUNG DES ALTTUBERCULINS IN DER INTERNEN PRAXIS. Von Dr. H. Luedke, Wuerzburger Abhandlungen, etc. VII. Band, 9 Heft. Pp. 25. Wuerzburg. A. Stuber's Verlag (Curt Kabitzsch). 1907.

A fairly complete discussion of the diagnostic and therapeutic use of tuberculin from the German point of view. The important work done in this field in America, especially at Saranac, is not touched upon and was apparently unknown to the author.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A. M., M. D. Fourth Edition. Illustrated. Pp. 498. Lea Brothers & Co., Philadelphia and New York. 1907.

The tremendous scope of the subject precludes completeness in a handy volume of the size of Egbert's Manual. It will, however, doubtless be found useful by those who, for some external reason, do not care to possess one of the more extensive works on general hygiene.

A MANUAL OF SURGERY FOR STUDENTS AND PHYSICIANS. By Francis T. Stewart, Professor of Surgery, Philadelphia Polyclinic. (504 illustrations.) P. Blakiston's Son & Co., Philadelphia, 1907.

This book is a thoroughly satisfactory manual treating of modern surgery, and is safe and sufficient to use as a guide for students. It is complete and makes an acceptable addition to the excellent "Leather Bound" series. Gynecology is given a place in this book, as it should be, and is well considered. The illustrations are well selected, and the text is clear and concise.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY, INCLUDING THE X-RAY, PHOTO-THERAPY, THE FINSEN LIGHT, VIBRATORY THERAPEUTICS, HIGH FREQUENCY CURRENTS, AND RADIO-ACTIVITY. By A. D. Rockwell, A. M., M. D., Neurologist and Electro-Therapeutist to the Flushing Hospital; formerly Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine; Member of the American Academy of Medicine, etc., with 259 illustrations. New Edition, revised and enlarged. E. B. Treat & Company, New York, Publishers, 1907. Price, $5.00. 666 pages.

This is practically a new edition of the old work of Beard and Rockwell on the same subject. The additional sections on x-ray diagnosis and therapy, light therapy, vibratory therapeutics and high frequency currents brings it fully abreast of the times. The detailed consideration of electro-physics, electro-physiology, electro-therapy, electro-surgery, Roentgen rays, Finsen light, etc., places this volume as one of the most extensive of its kind extant. It is a book that is more applicable to the uses of electro-therapeutists and specialists than to the general practitioner.

HINTS ON THE MANAGEMENT OF THE COMMONER INFECTIONS. By R. W. Marsden, M. D., M. R. C. P., D. P. H., Honorary Physician to the Ancoats Hospital, Manchester; Honorary Assistant Physician to the Manchester Hospital for Consumption; formerly Medical Superintendent, Monsall Fever Hospital, and Clinical Lecturer on Infectious Diseases, Owens College. E. B. Treat & Company, New York, Publishers. Price $1.50, 1907. Pages 128.

This little volume, dealing with the treatment of the commoner infections, considers both the general and specific indications of these diseases in a very direct and practical manner. Unnecessary theories and methods not absolutely established at the present time are entirely eliminated. The fact that it considers only recognized therapy which has been accepted as actually producing beneficial results in the hands of many authorities makes it a ready reference for this kind of information.

PHARMACOLOGY AND THERAPEUTICS. By R. W. Wilcox, M. A., M. D., LL.D., Professor of Medicine at the New York Post-Graduate School and Hospital; Consulting Physician to the Nassau Hospital, etc. Seventh Edition, 1907, Revised, with Index of Symptoms and Diseases. Price, $3.00 net. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, Publishers.

This is the seventh edition of the well-known work of the author. It is a companion book of Materia Medica and Pharmacy, by the same author. The same general plan and classification have been followed as in the previous editions, and the volume successfully meets the advances of the later times. The previous editions are so well known that favorable comment upon this one is unnecessary.

THE PRACTICE OF OBSTETRICS. By American Authors. Edited by Charles Jewett, M. D., Professor of Obstetrics in the Long Island College Hospital, Brooklyn, N. Y. In one handsome octavo volume of 786 pages, with 445 engravings in black and colors and 36 full-page colored plates. Cloth, $5.00 net; leather, $6.00 net; half morocco, $6.50 net. Lea Brothers & Co., New York and Philadelphia.

With great satisfaction we record the appearance of a third edition of Jewett's Practice of Obstetrics. As the publishers correctly state, it is quite rare an occurrence to find a work of composite authorship appearing in successive new editions. This fact in itself seems satisfactory proof that this is a text-book of high quality. Dr. Jewett and his co-authors have again revised their work and brought it up-to-date.

THE PUERPERIUM. By C. Nepean Longridge, M. D., F. R. C. S., M. R. C. P., Pathologist and Registrar, Late Medical Resident Officer at Queen Charlotte's Lying-in Hospital. London, Adlard & Son. Price, sh. 5.

This little volume of 272 pages offers a complete description of the management of the lying-in woman and the new born child as carried out in that model maternity, the Queen Charlotte's Lying-in Hospital of London. The book abounds in sound practical advice and must be welcome to student and practitioner, who has found out from experience that the average text-book of obstetrics deals with this essentially practical problem in an entirely too dogmatic and scientific manner.

PRACTICAL FEVER NURSING. By Edward C. Register. Illustrated. Pp. 352. Philadelphia and London: W. B. Saunders Co. 1907.

Since it confines itself to fever nursing, this volume is able to cover the subject thoroughly in a reasonable compass. In the discussion of each disease

a brief discussion of the etiology, symptomatology and diagnosis precedes the directions for nursing. The book contains all the nurse need know of the medical aspects of fevers besides adequate details regarding the nurse's duties. It will be found useful to practitioners as well as to those for whom it is primarily intended.

THE NEW HYGIENE. Three Lectures on the Prevention of Infectious Diseases. By Elie Metchnikoff. With Preface by E. Ray Lankester. Pp. 106. Chicago: W. T. Keener & Co. 1906.

So pleasant a task as the discussion of Prof. Metchnikoff's Harben lectures does not often fall to the lot of the reviewer. Written in a most delightful, anecdotal vein, they discuss entertainingly, if somewhat desultorily, a number of interesting hygienic problems. In the first lecture on The Hygiene of the Tissues, Metchnikoff calls attention to the present trend of opinion away from the more or less chemical views of immunity back to his own original theory of phagocytosis. This requires only the additional assumption of the presence in the blood serum of a substance called "sensitizer," which renders bacteria more readily edible by the phagocytes, to explain most of the phenomena of immunity. Practical use of this theory has been made by the French surgeon, Petit. He pours into the abdomen, at the close of a laparotomy, some thirty grammes of sterile horse-serum, with astonishing results, especially in pus cases. Similar results were obtained by Fernet in gangrenous pleurisy.

The second lecture on The Hygiene of the Alimentary Canal is concerned chiefly with the importance of intestinal parasites as the cause of various infections. Appendicitis, he believes, is often primarily due to an infection introduced by means of the bite of an intestinal worm, and strange as this view may seem, he is able to bring forward considerable evidence in its favor. In other respects, too, his views are radical. For bacteriologic reasons, he argues against the use of unboiled fruits and vegetables, and suggests a change in the constitution of the intestinal flora by means of the persistent ingestion of lactic acid bacilli, either in bulk or in sour milk. The last lecture is concerned with measures against syphilis and contains nothing novel.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPIC AND CHEMICAL METHODS FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, B. A., M. D. Sixth Edition. Fully illustrated. Pp. 682. Lea Brothers & Co., Philadelphia and New York. 1907.

The new edition brings Simon's useful text-book fully up to date. Many methods that have not proven useful have been omitted, whereas much has been added, especially in regard to blood work. The chapter on opsonins, in which the writer was a pioneer worker, is especially valuable. Two appendices have been added. One deals with the preparation of culture media and the other represents an outline of a course in clinical laboratory methods that will prove especially useful to teachers of this subject. An extensive index adds greatly to the value of the volume. The proofreading is not beyond reproach.

A TEXT-BOOK OF PHYSIOLOGY FOR MEDICAL STUDENTS AND PHYSICIANS. By W. H. Howell, Ph.D., M. D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Second Edition, 1907. Thoroughly Revised. Octavo Volume, 939 pages. Price: Cloth, $4.00 net. W. B. Saunders Company, Philadelphia and London, Publishers.

The practicing physician is coming to utilize more and more the practical application of the principles of physiology in diagnosis and treatment. Realizing the absolute dependence upon the elements of physiology, as well as those of anatomy and pathology, clinicians are directing their attention more and more to the importance of a proper training in physiology as a basis for the more exact science of clinical medicine. A review of this text substantiates the purpose of the edition which the author advocates in his preface, summarized as follows: No fundamental changes in the arrangement or scope of the second edition have been made. The additions and changes keep the presentation of the subject abreast of the times, but as far as possible have been counterbalanced by eliminating unnecessary material. The book remains, therefore, practically the same size as the first edtiion. And the revisions greatly improve the very excellent first edition. It will bear the closest scrutiny of the critics, and can be unhesitatingly recommended as a scientific text and practical reference.

THE PHYSIOLOGY OF ALIMENTATION. By Dr. M. H. Fischer, Professor of Pathology in the Oakland College of Medicine. First Edition, 1907, First Thousand. 12mo. Pp. 348. Price, $2.00 net. John Wiley & Sons, New York; Chapman & Hall, London, Limited, Publishers.

This volume is one of the first of its kind dealing with the compilation of the original research work done upon one physiological system. It is remarkable for its exhaustive review of the literature upon the physiology of the gastrointestinal tract. The manner in which the immense amount of work done upon this system is woven together, and the clearness with which deductions are made from the results of independent workers in this field, make it an especially valuable work for those interested in experimental research. For the above reasons it will also be an exceedingly convenient reference for all those who wish to be informed upon the special research work of the gastrointestinal tract.

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY FOR STUDENTS OF MEDICINE AND PHYSICIANS. By C. E. Simon, B. A., M. D., Professor of Clinical Pathology at the Baltimore Medical College. Third Edition, 1907. Thoroughly Revised. Quarto volume. 473 pages. Lea Brothers & Co., Philadelphia and New York, Publishers.

This volume is the third edition of the author's already established text-book on physiological chemistry. The revisions made by it fulfill the developments in this science, and the text will continue to be recognized as the standard one in this branch of the sciences.

BEITRAGE ZUR KLINIK DER TUBERKULOSE, herausgegeben von Dr. Ludwig Brauer. Band VII, Heft 1-4. Wuerzburg. A. Stuber's Verlag (Curt Kabizsch). 1907.

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